SONY

DIGITAL VIDEOCASSETTE RECORDER

DVW-A500/1
DVW-A500P/1
DVW-500/1
DVW-500P/1

CONTROL PANEL

BKDW-515

ANALOG COMPOSITE DECODER BOARD
BKDW-505/506
AUDIO PROGRAM PLAY BOARD
BKDW-507
PARALLEL (50P) INTERFACE KIT
BKDW-509
CONTROL PANEL
BKDW-514

Digital BETACAM

OPERATION MANUAL English

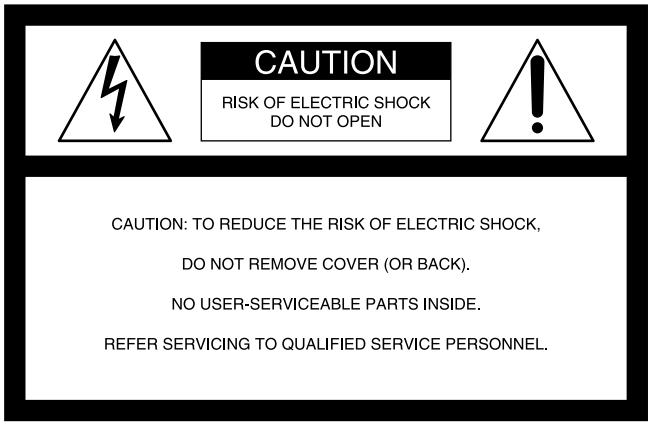
1st Edition (Revised 3)

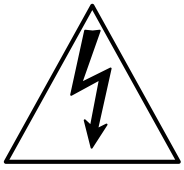
Serial No. 50001 and Higher (DVW-A500/1)
Serial No. 50001 and Higher (DVW-A500P/1)
Serial No. 50001 and Higher (DVW-500/1)
Serial No. 50001 and Higher (DVW-500P/1)
Serial No. 10001 and Higher (BKDW-515)

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cobinet. Refer servicing to qualified personnel only.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For the customers in Europe (For BKDW-515)

This product with the CE marking complies with the EMC Directive (89/336/EEC) issued by the Commission of the European Community.
Compliance with this directive implies conformity to the following European standards:

- EN55103-1: Electromagnetic Interference (Emission)
- EN55103-2: Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environment:
E4 (controlled EMC environment, ex. TV studio).

For the customers in the United Kingdom

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow: Earth
Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

For the customers in U.S.A.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

WARNING: Using this unit at a voltage other than 120 V may require the use of a different line cord or attachment plug, or both. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel.

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1-1 Features

1-1-1 Features of the DVW-A500/1, A500P/1, 500/1 and 500P/1

The DVW-A500/1, A500P/1, 500/1, and 500P/1 Digital Videocassette Recorders adopt the Digital Betacam format, and are differentiated as follows:

- The DVW-A500/1 and DVW-A500P/1 are capable of playing back analog Betacam and Betacam SP format cassette tapes.
- The DVW-500/1 and DVW-500P/1 are not compatible with either the analog Betacam or Betacam SP formats.

The DVW-A500/1 and 500/1 can be used in the NTSC color system while the DVW-A500P/1 and 500P/1 can be used in the PAL color system, though they both adopt a component format.

Digital Betacam Format

The DVW-A500/1 series and DVW-500/1 series adopt the newly developed Digital Betacam format as an extension of the Betacam/Betacam SP format. The Digital Betacam format makes the most of the available recording area to achieve high-quality digital recording, while maintaining analog Betacam tape playback compatibility. The following have been developed for this purpose:

- Coefficient recording system
- Powerful error correction system
- High-quality precision heads and drum with DT® (Dynamic Tracking) heads
- New auto tracking system

Together, these allow 120 minutes or more of recording time on half-inch Digital Betacam (L-size) cassettes the same size as those for conventional Betacam and Betacam SP.

Overview of digial signal processing

Digital video signal processing is based on the 4:2:2 component digital D-1 format and CCIR 601 standard quantization. In addition, the data rate is compressed with the coefficient recording system. Digital audio signals are processed in full bits conforming to the AES/EBU format.

Input interface

The component serial digital interface, conforming to SMPTE 259M/EBU T.3267/CCIR 656-III standards, handles component video signals and 4-channel digital audio signals with a single BNC coaxial cable. Both analog component signals and composite signals (with the BKDW-505/506) are digitized into CCIR 601 standard parallel data.
Audio data from the AES/EBU digital interface or A/D converted data from analog input can be selected for recording.

Bit rate reduction encoder

Video data are suppressed to about half by a newly developed coefficient recording system, whose key processes include field shuffling, blocking, DCT (Discrete Cosine Transform), quantizing, and variable length coding.

ECC encoder

The outer ECC (Error Correction Code) is added to the compressed video and audio data, followed by the inner ECC, ID data, and sync data. The Reed-Solomon code is employed in this error correction system.

Channel coding

Video and audio data with the ECC added are recorded in the form of serial data. The Digital Betacam format adopts a scrambled NRZI channel coding system that is superior in off-track and noise characteristics.

Playback signal processing

The playback digital data are equalized by auto EQ circuits and error-corrected by powerful inner and outer ECC, which can correct most data disturbed by noise and dropouts in the reproduced signal. Data that cannot be corrected further are compensated by error concealment circuits.

Output interface

Component video data are converted into serial data and multiplexed with audio data, then output in the serial digital interface format.
For analog output, component video data are D/A converted into an analog component signal, while they are encoded into composite digital, then D/A converted into analog composite signal.
For audio outputs, the AES/EBU digital interface and D/A converted analog audio are available.

Advanced Recording and Playback Functions

High-quality digital recording
The DVW-A500/1 series and DVW-500/1 series adopt component digital video and a four-channel, 20-bit digital audio recording system using an AES/EBU format with a wide dynamic range. A digital signal processing system that includes an advanced error correction and concealment system that are unique to digital Betacam provides superb video and audio quality, while the adjusting and setting of a built-in digital video processor ensures the output of precise and stable video signals.

Playback compatibility with analog Betacam and Betacam SP (DVW-A500/1 series only)
The DVW-A500/1 series provide playback capability with tapes recorded on the Betacam SP VTRs, so that Betacam users can upgrade to a digital environment while enjoying continued access to the enormous analog Betacam archives.

Noiseless playback with DT heads
Using the playback DT heads, you can perform noiseless playback at 54 speeds ranging from –1 to +3 times normal speed, including still-picture playback. Noiseless playback is also supported in the case of both digital and analog Betacam playback.

Video and audio confidence heads
Video and audio confidence heads enable you to play back video and audio signals on channels 1 to 4 while recording, to check the quality of the recording.

Internal time code generator and reader
The internal time code generator allows you to record LTC/VITC time codes and user bits together with video and audio signals. Time codes and user bits are read by the internal time code reader during playback.

Computer servo system
Computer-controlled servo motors provide direct drive for the drum, capstan, and two reels, enabling quick and accurate tape access.

Capstan override function
You can adjust the playback speed by ±15% to ensure synchronization between, for example, two VTRs playing back the same program.

Independent level controls
The recording and playback levels of each of the four audio channels can be set indepenently during monitoring of audio level meters.

Features for Ease of Operation

Compact, lightweight, low power consumption
The VTR is small and light enough to be used in outside broadcast vans or in EFP (Electronic Field Production) assignments.

Remote control operation
The VTR has a serial RS-422A 9-pin connector to allow control of the VTR by an external control unit through RS-422A communications.
The VTR also comes with 9-pin REMOTE1-IN(9P) and OUT(9P) connectors to support bridge connection of multiple DVW-A500/1 or DVW-500/1 series units or other VTRs equipped with 9-pin remote connectors for simultaneous operations.
Furthermore, by using the optional BKDW-509 Parallel (50-pin) Interface Kit, you can control the VTR from an external control unit with a parallel interface.

Digital hours meter
Three different hour displays and one cycle count display are supported, showing total elapsed time since the VTR was turned on, total drum revolution time, total tape running time and total number of threadings and unthreadings.

Self-diagnosis
When enabled through the maintenance menu, any malfunction causes the VTR to perform self-diagnosis, after which it displays the relevant error code in the display.

Easy-to-maintain plug-in boards
The VTR uses plug-in circuit boards to simplify servicing and inspection.

Mountable in standard 19-inch rack
The unit can be mounted in an EIA-standard 19-inch rack.

For rack mounting, refer to the Installation Manual.

1-1-2 Features of the BKDW-515

The BKDW-515 Control Panel provides six menu screens corresponding to the six operation modes to allow fast and easy adjustment of necessary settings, as well as the ability to store menu settings to a memory card for later recall.

Menu-driven operations for a variety of purposes

Six types of menus appear on the BKDW-515's 90 × 72 mm (35/8 inches × 27/8 inches) display, and are set using the 10 /function buttons to the left and at the bottom of the display.

HOME menu
Use this menu to make the basic settings for recording, playback, and editing operations, and to select channels to be edited during insert editing.

TC menu
Use this menu to make time code settings.

CUE menu
Use this menu to set up to 100 cue points. In page mode, 10 cue points per page can be set on a total of 10 pages.

PF1/PF2 (Personal Function) menus
Use these menus to register up to 40 of the most frequently used items from the other menus (up to ten items each can be registered to PF1, ALT+PF1, PF2 and ALT+PF2). You can display the registerable items by pressing the F4 (PF1&2 ASSIGN) button in the SET UP menu.

SET UP menu
- Use the VTR BANK menu to memorize menu settings of up to 8 pages.
- Use the MEMORY CARD menu to store current settings of the VTR and up to 8 pages of the contents of the VTR memory bank to an IC memory card.
- Use the scrollable PF1&2 ASSIGN menu to display the items that can be registered in the PF1/PF2 menus, and to select and register the most frequently used menu items.
- Use the scrollable VTR SETUP menu to display the items necessary for making initial settings, and to directly change settings without registering them to the function buttons for each menu.
- Use the PANEL SETUP menu to set control panel operations, such as the keyboard sound output.

MAINTENANCE menu
Use this menu to access the maintenance functions in conjunction with a video monitor.

For details, refer to the Installation and Maintenance Manual.

A full complement of storage/recall functions

These functions allow you to store and recall menu settings in either the VTR's internal memory banks or IC memory cards by title.

VTR memory banks
These memory banks allow you to store up to eight pages of VTR settings in addition to the current VTR settings. Factory settings are also stored here, allowing the VTR to be reset to these values at any time.

IC memory cards
Each IC memory card can hold the current VTR settings as well as up to eight pages of settings. A single IC memory card thus allows you to store and recall the entire contents of the VTR memory banks.

Title function
This function allows you to add titles when storing data to the VTR memory bank or IC memory card, thus facilitating data retrieval and management.

A full range of editing functions

You can connect two DVW-A500/1 or DVW-500/1 series units to enable automatic or manual editing in either assemble or insert mode. The VTR also features a full range of editing functions, including preview, review, preroll, and the setting or changing of edit points.

Quick access to edit points
The following methods are provided for the setting of edit points:
- Multi-cuing for up to 100 edit points
- Search dial with shuttle and jog functions
- Direct input through numeric buttons

DMC (Dynamic Motion Control) editing

Using the DT® (Dynamic Tracking) heads, you can play back a section of an edit at speeds between –1 and +3 times normal speed, and store the speed variation in memory for later use in automatic editing.

Split editing

In insert mode, you can set audio and video edit points separately.

Preread editing

You can perform preread editing using video or digital audio signals recorded on the tape as the edit source for insert editing.

A variety of audio editing modes

You can select cut-in editing, cross-fade editing, and fade in/out editing for the audio signals.

Display of duration between edit points

After edit point data have been set, you can display the duration between any two IN, OUT, AUDIO IN, or AUDIO OUT points by simultaneously pressing two buttons corresponding to those edit points.

Digital time counter

The time counter display shows CTL and time codes (LTC/VITC[1)]), or user bits data to enable the precise setting of edit points.

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1) LTC (Longitudinal Time Code)
Time code recorded on a longitudinal track

VITC (Vertical Interval Time Code)
Time code recorded on a video track during the vertical blanking interval

1-2 Optional Accessories

The following accessories can be used with the DVW-A500/1 series and DVW-500/1 series:

BKDW-505 (for NTSC video format)/BKDW-506 (for PAL video format) Analog Composite Decoder Board

Converts in-coming analog composite video signals to digital signals. Allows bridge connection with other components.

BKDW-507 Audio Program Play Board

Enables the output of audio signals that retain their original pitch during program playback. Also stabilizes pictures during program playback.

BKDW-509 Parallel (50-pin) Interface Kit

Allows you to remotely control the DVW-A500/1 series or DVW-500/1 series from an external control unit with a parallel interface.

BKDW-514 Control Panel

When attached in place of the BKDW-515, this control panel makes the VTR equivalent to the DVW-A500 series or DVW-500 series in function and capability.

Note

The BKDW-515 and the control panel of the DVW-A500/1 or DVW-500/1 series cannot be installed in the BKDW-511 Control Panel Case.

References

In addition to this Operation Manual, the following manuals are available:

- Installation and Maintenance Manual (supplied with the DVW-A500/1 series, DVW-500/1 series or the BKDW-515)
  Provides information necessary for users to maintain the control panel.

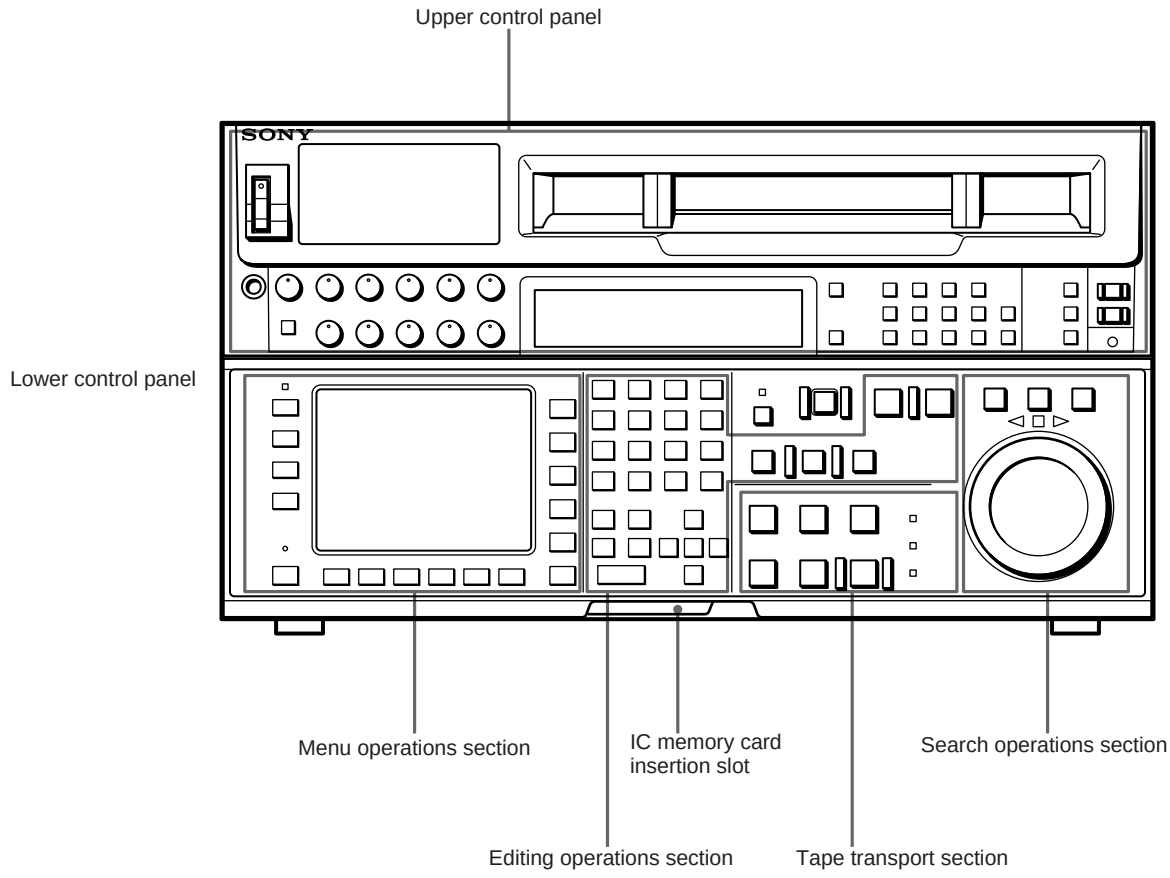
- Installation Manual (supplied with the DVW-A500/1 series or DVW-500/1 series)
  Provides information necessary to install the VTR and its peripherals.

- Manitenance Manual Part 1 (supplied with the DVW-A500/1 series or DVW-500/1 series)
  Provides information necessary for users to maintain the VTR.

- Maintenance Manual Part 2 (available on request)
  Provides additional information to fully maintain the DVW-A500/1 series, DVW-500/1 series and the BKDW-515. Contains details on electrical adjustments, circuit diagrams, and other items.

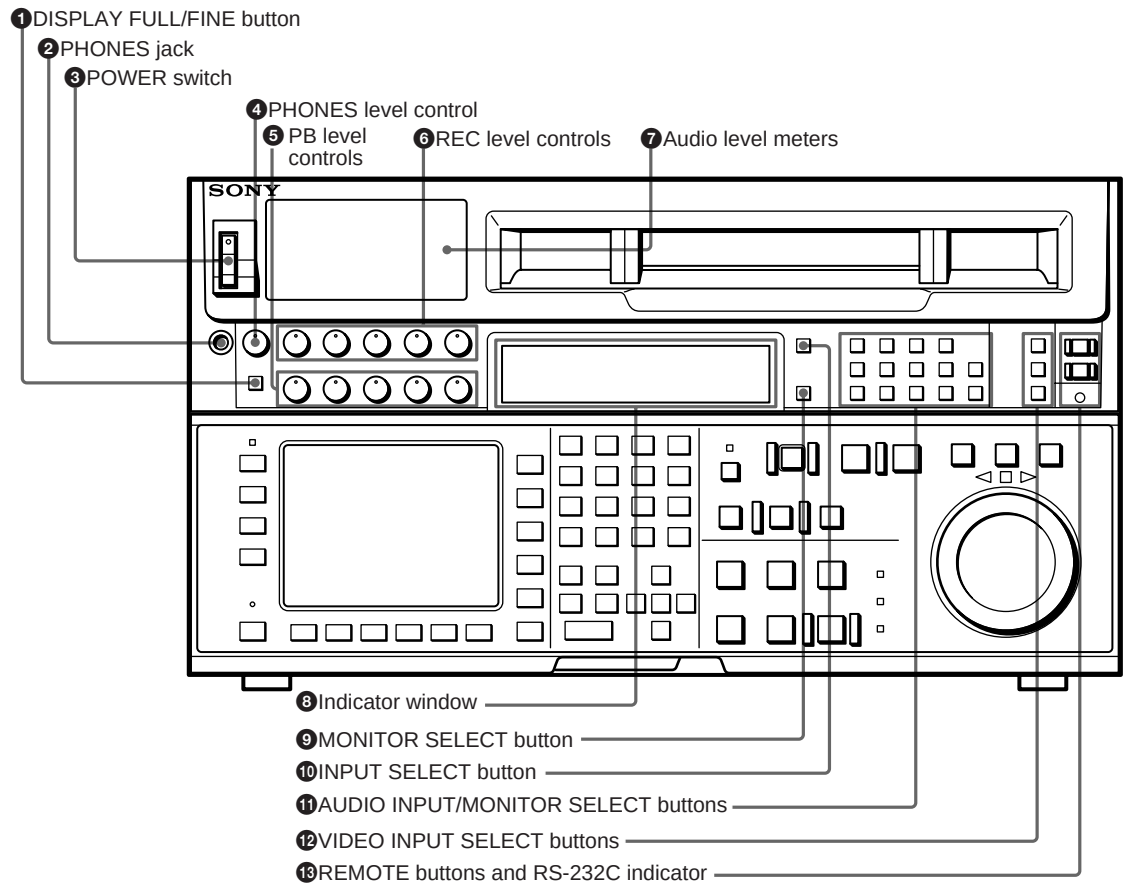
2-1 Control Panel

The control panel consists of the following sections:
- Upper control panel
- Lower control panel: menu operations section, IC memory card insertion slot, editing operations section, tape transport section and search operations section



Control panel

2-1-1 Upper Control Panel



Upper control panel

❶ DISPLAY FULL/FINE button

Changes the display range of the audio level meters.

FULL: Display range is –60 to 0 dB (peak level = 0 dB) or –40 to +20 dB (peak level = +20 dB). Use 806. LEVEL METER SCALE in the VTR SETUP menu to select the range.

FINE: Displays the audio level in 0.25 dB increments. The center LED lights up in each meter as a signal level reference. When the level exceeds the maximum display value, the top LED lights up. When the level falls below the minimum display value, the bottom LED lights up.

❷ PHONES jack

Connects stereo headphones with 8 Ω impedance for audio monitoring during recording, playback, and editing. Adjust the headphone output level with the PHONES level control.

❸ POWER switch

Turns on the power. When the power is turned on, the audio level meters and menu display in the lower control panel light up.

❹ PHONES level control

Adjusts the output level to the PHONES jack.
You can enable this control to simultaneously adjust the output level to the MONITOR OUTPUT connectors on the connector panel.

For details, refer to "5-1-2 Selecting Audio Signals" on page 5-2.

❺ PB (playback) level controls

Adjust the level of the audio output for channels 1 to 4 and the cue channel.
Pull out the controls during playback to adjust the audio output for each channel. Push in again for factory-set levels (+4 dB output for a signal recorded at a reference level of 0 dB). When pushed in, the controls cannot adjust the audio output level.

❻ REC (recording) level controls

Adjust the recording level for channels 1 to 4 and the cue channel.
Pull out the controls to adjust the recording level for each channel in E-E mode[1)]. Push in again for the factory-set recording level (0 dB reference level for an input of +4 dB). When pushed in, the controls cannot adjust the recording level.

❼ Audio level meters

Indicate the recording level in recording or E-E mode or the playback level in playback or CONFI mode.
The display range can be changed by pressing the DISPLAY FULL/FINE button. The reference level is factory set at –20 dB, and the peak level at 0 dB.

❽ Indicator window

The following indicators light up to indicate the VTR's status.

Indicators and corresponding VTR status

Indicator	Status
DOLBY NR (DVW-A500/1 series only)	Lights up when the Dolby NR circuit is activated.
KEY INHIBIT	Lights up when the F1 (KEYINH) button in the PANEL SETUP menu is set to on.
CHANNEL CONDITION	Indicates the playback signal condition. Green: Playback signal is good. Yellow: Playback signal is less than good, but still reproducible. Red: Playback signal is poor. Head cleaning or internal inspection is necessary if the indicator lights up continuously.
DIGITAL	Lights up when a Digital Betacam cassette is inserted, and turns off when an analog Betacam cassette is inserted.
LTC	Lights up when the VTR is recording LTC signals or reading LTC signals during playback. Also lights up in E-E mode if you press the REC button while the F6 (TCG SOURCE) button in the TC menu set to ext, allowing you to verify that the VTR is locked to an external time code.
VITC	Lights up when the VTR is reading VITC signals during playback, or when the VTR is in recording or E-E mode and the video input signal contains VITC signals. Also lights up when the F10 (VITC) button in the TC menu is set to on and the VITC signals contained in the video signal are normal.

❾ MONITOR SELECT button

Selects the audio signal to be output at the MONITOR OUTPUT L/R connector(s). Press to light the button up, then press the AUDIO INPUT/MONITOR SELECT button(s) to specify which channel(s) are to be monitored at the MONITOR OUTPUT L or R connector. If you specify more than one channel to the same MONITOR OUTPUT connector, a mixed audio signal is output from that connector. This specification can also be done as a menu operation.

For details, refer to "4-6-4 Selecting the Monitor Output Signal (MON-L SEL/MON-R SEL)" on page 4-37.

1) E-E mode
An abbreviation for Electric-to-Electric mode. In this mode, video or audio input signals are passed and output only through the VTR's internal circuitry, and not through the magnetic conversion system comprising tape and heads.

⑩ INPUT SELECT button

Selects the audio input signal. Press to light the button up, then press one of the AUDIO INPUT/MONITOR SELECT buttons to select the type and the channel of the audio signal.

SIF (CH-1 to CH-4): Selects signal input to the SERIAL V/A INPUT connector.

AES/EBU (CH-1 to CH-4): Selects signal input to the AUDIO INPUT (AES/EBU) connectors.

ANALOG (CH-1 to CH-4): Selects signal input to the ANALOG AUDIO INPUT connectors.

If you select the SERIAL V/A INPUT or AUDIO INPUT (AES/EBU) connectors when there is no incoming signal, the INPUT SELECT button flashes. This specification can also be done as a menu operation.

For details, refer to "4-6-1 Selecting the Audio Input Signal (A-IN ALL to A-IN CH4)" on page 4-37.

⑪ AUDIO INPUT/MONITOR SELECT buttons

Select the audio input signal when the INPUT SELECT button lights up, or the audio signal to be monitored when the MONITOR SELECT button lights up.

⑫ VIDEO INPUT SELECT buttons

Press one of the following buttons to select the video input signal.

If you select a connector which has no incoming signal, the button flashes.

SIF: Selects the serial digital video signal input to the SERIAL V/A INPUT connector.

COMPONENT (Y-R, B): Selects the analog component video signal input to the COMPONENT VIDEO INPUT connectors.

COMPOSITE: Selects the analog composite video signal input to the COMPOSITE VIDEO INPUT connector.

Note

To input analog composite video signal, you must install the optional BKDW-505 (for NTSC video format)/BKDW-506 (for PAL video format) Analog Composite Decoder Board.

⑬ REMOTE buttons and RS-232C indicator

Press these buttons to select external equipment to be used to remotely control the VTR.

1(9P): Press to select the unit connected to the REMOTE1-IN(9P)/OUT(9P) connectors. The button lights up.

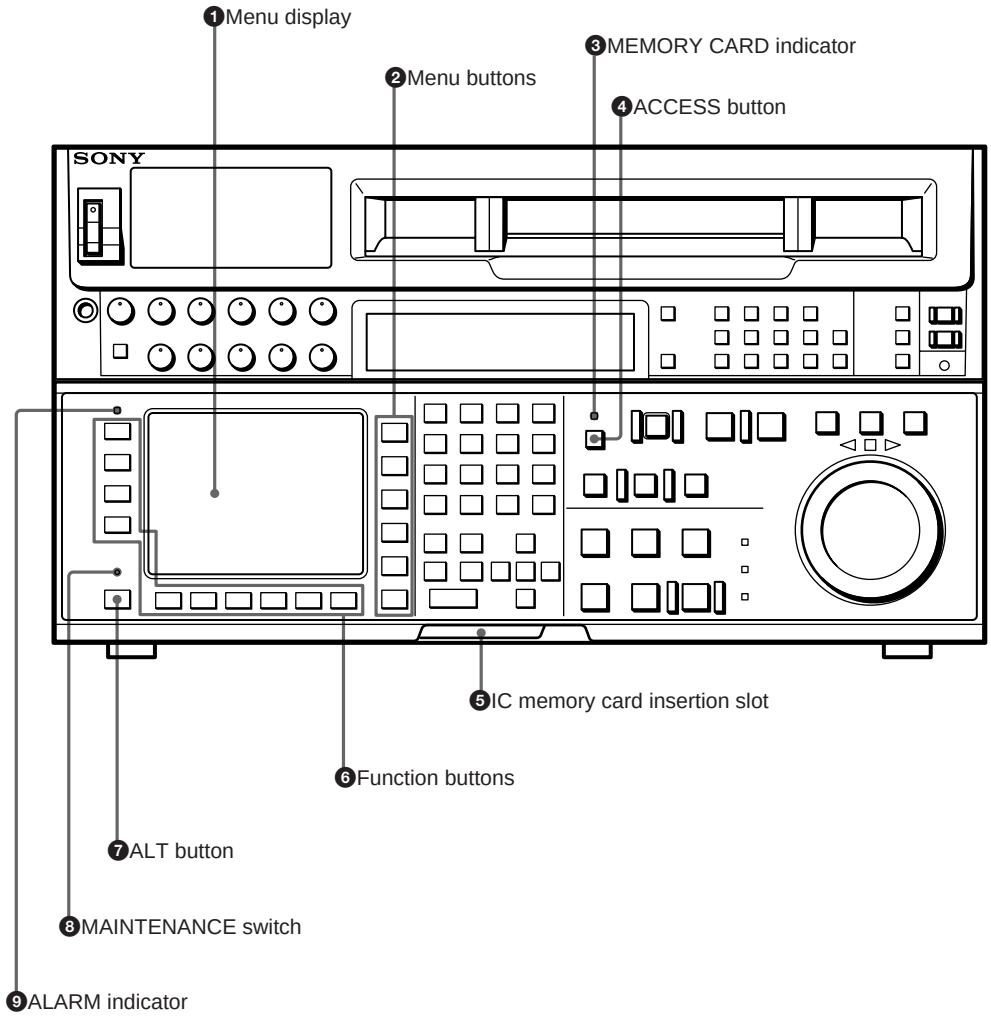
2(50P): Press to select the unit connected to the REMOTE PARALLEL I/O(50P) connector (with optional BKDW-509). The button lights up.

RS-232C indicator: Lights up when the VTR is communicating with the external equipment connected to the RS-232C connector.

Note

When the VTR is being controlled by external equipment connected to the REMOTE1-IN(9P) or REMOTE PARALLEL I/O(50P) connector, all tape transport buttons and edit operation buttons are disabled, except the STOP and EJECT buttons. You may also specify the disabling or enabling of all buttons by setting 006. LOCAL FUNCTION ENABLE in the VTR SETUP menu.

2-1-2 Lower Control Panel (Menu Operations Section)



Lower control panel (menu operations section)

❶ Menu display
Menus selected by pressing the menu buttons appear here.
Each menu shows the functions assigned to each function button (F1 to F10) and information necessary for making settings, such as time codes.

❷ Menu buttons
Press to activate the respective menu.

HOME button: Activates the HOME menu. Settings for basic or editing operations are made in the HOME menu.

TC button: Activates the TC (time code) menu. In the TC menu, you can switch between LTC and VITC and between DF and NDF (DVW-A500/1 and DVW-500/1 only), and make settings for time code displays on an external monitor.

CUE button: Activates the CUE menu. In the CUE menu, you can register 10 cue points per page for a total of 100 cue points.

PF1 button: Activates the PF (Personal Function) 1 menu. In the PF1 menu, you can register frequently used settings in other menus. Settings for video input/output signals are factory set.

PF2 button: Activates the PF (Personal Function) 2 menu. In the PF2 menu, you can register frequently used settings in other menus. Settings for audio input/output signals are factory set.

SET UP button: Activates the SET UP menu. Use the SET UP menu to restore settings to the VTR memory banks or IC memory card, register functions to the PF1/2 menus, and set items in the VTR SETUP menu.

For details, refer to "Chapter 4 Menu Settings" on page 4-1.

❸ MEMORY CARD indicator
Lights up when the IC memory card is inserted.

❹ ACCESS button
Press this button to directly activate the MEMORY CARD menu. Flashes when the control panel is accessing the IC memory card.

Note

Do not eject the IC memory card while the ACCESS button lights up as this may damage the contents of the memory card.

❺ IC memory card insertion slot
Insert IC memory cards here. VTR settings can be stored on cards and used to configure the VTR and control panel at a later date, thus reducing the time required for set up.
Press the button beside the insertion slot to eject the IC memory card.

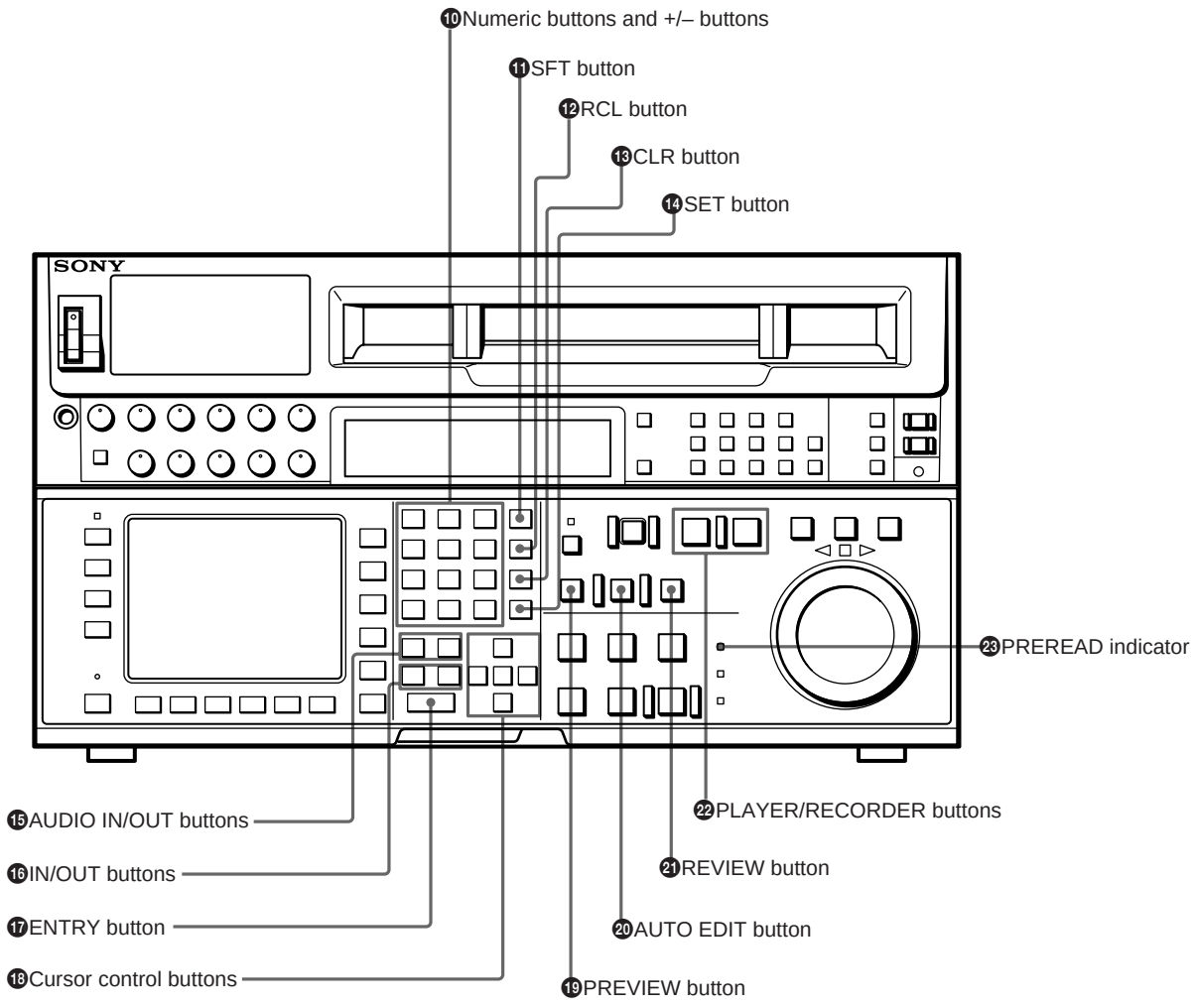
❻ Function buttons
Activate the functions for the respective function buttons in each menu.

❼ ALT (alternative) button
Press to change the functions of the current menu. Press again to return to the original functions.

❽ MAINTENANCE switch
Activates the MAINTENANCE menu.
To operate this switch, push it in using the tip of a pen or some other pointed object while holding down the SFT button.

❾ ALARM indicator
Lights up when the communication between the VTR and the control panel is abnormal.

2-1-3 Lower Control Panel (Editing Operations Section)



Lower control panel (editing operations section)

⑩ Numeric buttons and +/– buttons
Press to input time data or edit points data at the cursor position in menu display. Press buttons 0 to 5 while holding down the SFT button to input A to F (hexadecimal figures) for user bits. Use the +/– buttons to increase or decrease settings.

⑪ SFT (shift) button
Press buttons 0 to 5 while holding down this button to input A to F (hexadecimal figures) for user bits.
Use also in combination with other buttons to perform other operations.

⑫ RCL (recall) button
Press to call up a previously entered value.

⑬ CLR (clear) button
Press to clear a value.

⑭ SET button
Press to enter a value.

⑮ AUDIO IN/OUT buttons
Press to set AUDIO IN and OUT points during insert mode. Press either AUDIO IN or OUT button while holding down the ENTRY button to set an audio edit point.

⑯ IN/OUT buttons
Press to set an IN or OUT point during editing. Press either button while holding down the ENTRY button to set an edit point.

⑰ ENTRY button
Press to enter an edit or cue point.
While holding down this button, press either the AUDIO IN or OUT button, or the IN or OUT button.

⑱ Cursor control buttons
Press to move the cursor in the menu display. Move the cursor as required to enter a value using the numeric buttons, or to change a menu setting.

⑲ PREVIEW button
Press to view the results of an edit on a monitor connected to the recorder VTR without actually recording the edit. During previewing, the tape moves, but actual editing is not carried out. If no IN point has been set when you press this button, the current tape position is set as the IN point at the start of the preview.

⑳ AUTO EDIT (automatic editing) button
Press to do automatic editing after you have set the edit points. If no IN point has been set when you press this button, the current tape position is set as the IN point at the start of automatic editing.

㉑ REVIEW button
Press to review results of an edit (a section between one IN point and one OUT point) on a monitor connected to the recorder.

㉒ PLAYER/RECORDER buttons
Select which VTR is to be controlled by this VTR's control panel during editing when this VTR is used as a recorder and an external VTR connected to the REMOTE1-IN(9P)/OUT(9P) connectors as a player.

PLAYER: The tape transport buttons and editing operation buttons on the control panel control the external player VTR.

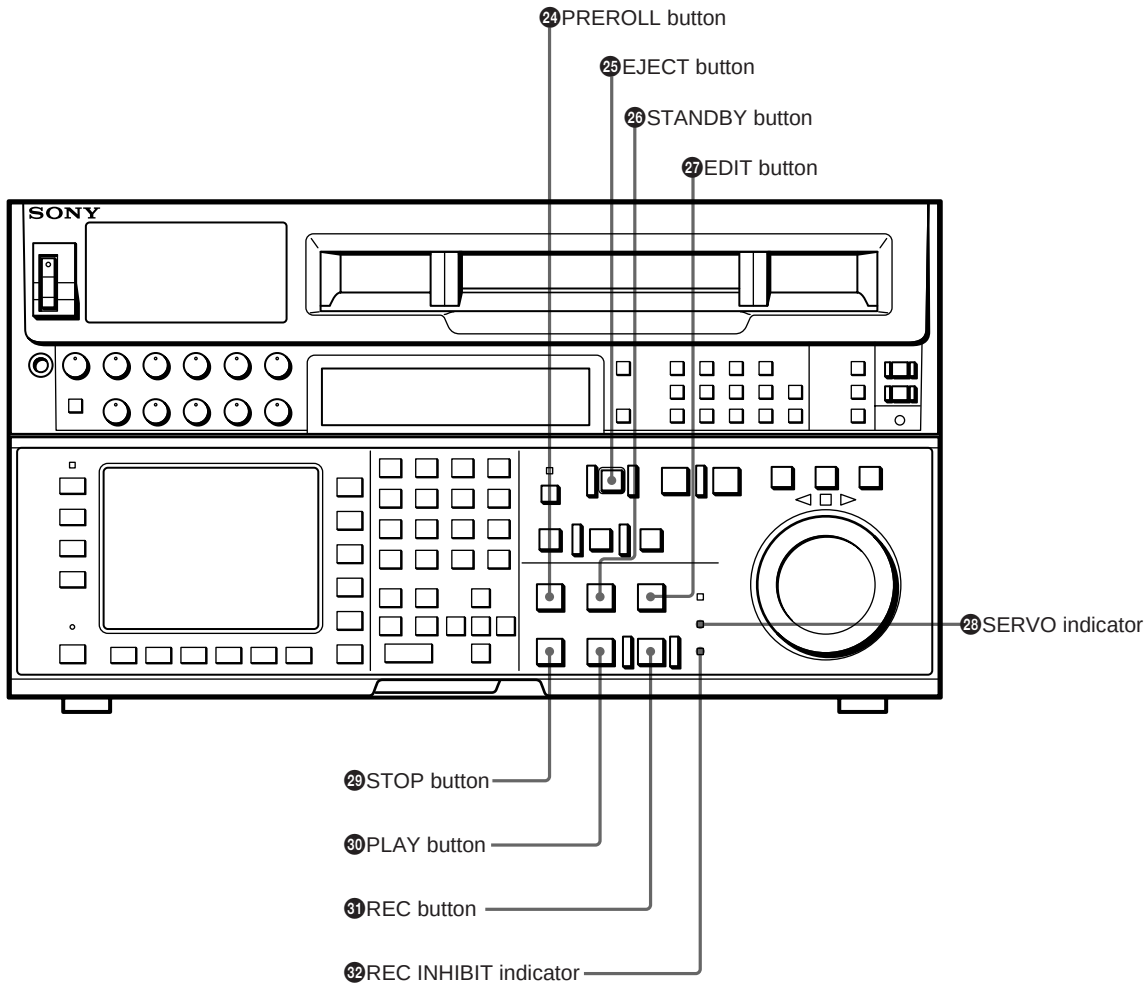
RECORDER: The tape transport buttons and editing operation buttons on the control panel control the recorder VTR (this VTR).

The PLAYER/RECORDER buttons have no effect when using this VTR alone.

㉓ PREREAD indicator
Lights up during preread mode.

For details on prereading, refer to "6-2-4 Performing Preread Editing" on page 6-18.

2-1-4 Lower Control Panel (Tape Transport Section)



Lower control panel (tape transport section)

㉔ PREROLL button

Press to position the tape to the preroll point (a position factory set to five seconds before the IN point).

Press this button while holding down the IN, OUT, AUDIO IN or AUDIO OUT button to cue up the tape at the edit point of the respective button.

For details on changing the preroll time, refer to "4-2-8 Setting the Preroll Time (P-ROLL TIME)" on page 4-16.

㉕ EJECT button

Press to eject the cassette. When the button is pressed, the tape is automatically unthreaded and the cassette is ejected in a few seconds. Resets the display when CTL codes appear in the menu display in the lower control panel.

㉖ STANDBY button

Press this button in other than standby mode to make it light up and place the VTR in standby mode. The head drum rotates in standby mode, thereby shortening the time required for the tape to start.
Press this button while in standby mode to turn the button off and cancel standby mode. The head drum stops rotating and the tape tension is released. If the VTR remains in standby mode for more than eight minutes (factory setting), standby mode is automatically canceled in order to safeguard the tape.

㉗ EDIT button

Press this button while holding down the PLAY button to start manual editing.
Press this button while the VTR is in stop mode to monitor the signal selected in the HOME menu in E-E mode. To cancel E-E mode and stop the tape, press the STOP button.
Hold down this button while the VTR is playing back, searching for an edit point, fast-forwarding or rewinding to monitor the video signal in E-E mode.

㉘ SERVO indicator

Lights up when the drum servo and capstan servo are locked.

㉙ STOP button

Stops the tape (stop mode).
When PB is selected with the ALT button and F2 (PB/EE) button in the HOME menu, a still picture is output when you press this button. In stop mode, the head drum continues rotating and the tape is wound around the head drum.
When you insert the cassette, the VTR automatically enters stop mode.
The STOP button flashes when the F2 (OUT REF) button in the PF1 menu is set to input but there is no video input signal, when the F2 (OUT REF) button in the PF1 menu is set to ref but there is no external reference video signal, or when the input signal is out of phase with the external reference video signal. If you want, you can set 105. REFERENCE SYSTEM ALARM in the VTR SETUP menu so that the STOP button will not flash under the above conditions.

㉚ PLAY button

Starts playback.
Press this button while holding down the REC button to start recording, or while holding down the EDIT button to start manual editing.
Pressing this button during recording or manual editing changes the VTR to playback mode.

㉛ REC button

Press this button while holding down the PLAY button to start recording.
Hold down this button while the VTR is playing back, searching for an edit point, fast-forwarding or rewinding to monitor the video and audio signals in E-E mode.
Press the STOP button during monitoring to return to the video and audio monitored before you pressed the REC button.

㉜ REC INHIBIT indicator

Lights up or goes off, depending on the setting of the ALT button and F1 (REC INH) button in the HOME menu and the state of the record-protect plug on the cassette.

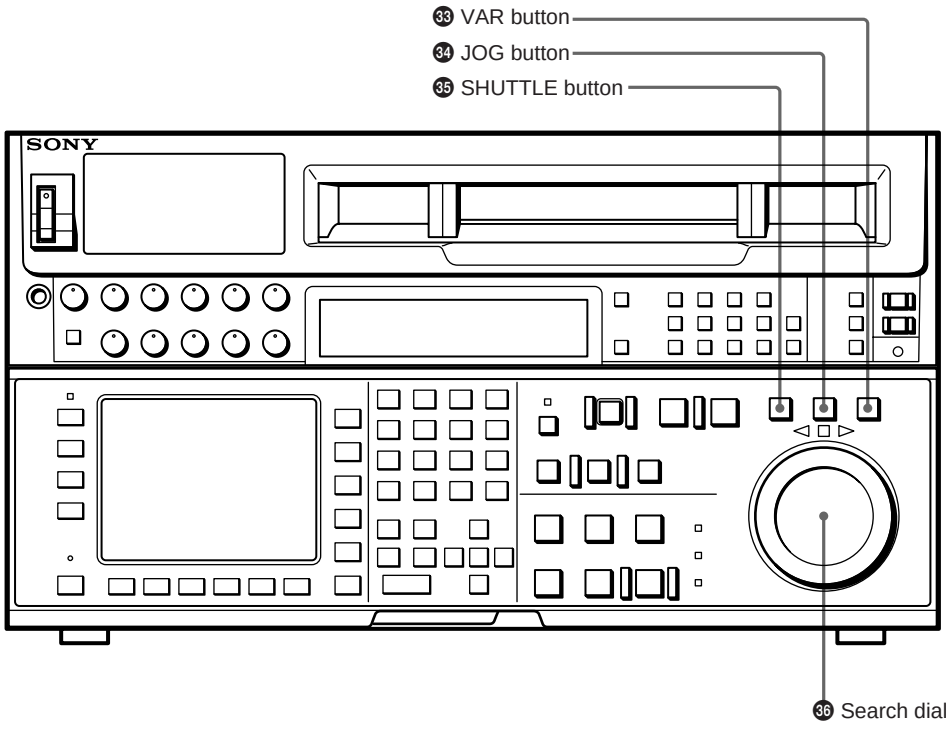
Status of the REC INHIBIT indicator

Setting of the ALT and F1 (REC INH) buttons in the HOME menu	State of the record-protect plug on the cassette	REC INHIBIT indicator
all, crash, video, audio	Disabled/enabled	Lit
off	Disabled	Lit[a)]
	Enabled	Unlit

a) By setting 107. REC INHIBIT LAMP FLASHING in the VTR SETUP menu, you can change the setting so that the indicator flashes here.

Recording, editing, and selection of assemble and insert modes are possible only when the indicator is unlit.

2-1-5 Lower Control Panel (Search Operations Section)



Lower control panel (search operations section)

33 VAR button
Press to select variable speed playback mode for noiseless playback in a maximum range of –1 to +3 times normal playback speed, in 54 steps. The playback exceeding this speed range is not possible. In this mode, the VAR button lights up, and the search dial clicks at the positions for still-picture and normal playback speed.

34 JOG button
Press to select jog mode. In this mode, the button lights up and playback at –1 to +1 or –3 to +3 times normal playback speed is possible (selectable in the VTR SETUP menu). The playback speed corresponds to the rotational speed of the dial. In this mode, the search dial does not click.

35 SHUTTLE button
Press to enter shuttle mode. In this mode, the button lights and playback at –50 to +50 times normal playback speed is possible when using Digital Betacam tape, or at –35 to +35 (DVW-A500/1 only) or –42 to +42 (DVW-A500P/1 only) times normal playback speed when using analog Betacam tape. The playback speed corresponds to the angle of rotation of the dial. In this mode, the search dial clicks at the positions for 0 (still-picture), –10 and +10 times normal playback speed.

㊱ Search dial

Rotate to search for edit points. Rotate the dial clockwise for forward playback (the ▶ indicator lights up) or counterclockwise for reverse playback (the ◀ indicator lights up). The ■ indicator lights up while the VTR is in stop mode.

Press the dial to toggle the VTR between shuttle and jog modes.

Shuttle mode: The playback speed corresponds to the angle of rotation of the dial (–50 to +50 times normal speed when playing back a Digital Betacam tape, and –35 to +35 (DVW-A500/1 only) or –42 to +42 (DVW-A500P/1 only) times normal speed when playing back an analog Betacam tape). The dial clicks at the positions corresponding to 0 (still-picture), –10 and +10 times normal playback speed.

Jog mode: The playback speed, which corresponds to the rotational speed of the dial, ranges from –1 to +1 or –3 to +3 times normal playback speed (selectable in VTR SETUP menu). The dial does not click.

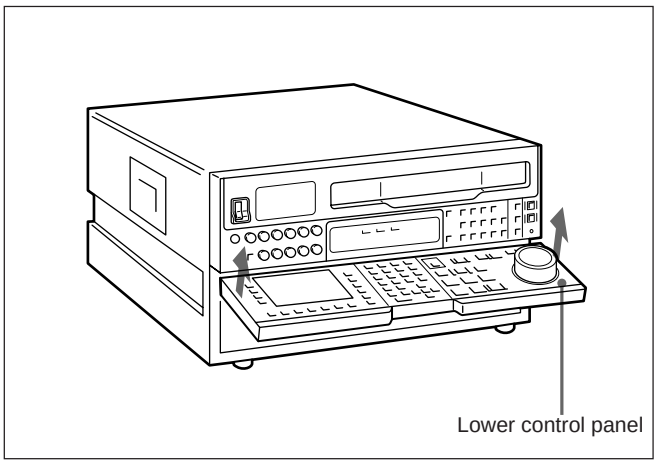
Variable speed playback mode: Noiseless playback at –1 times normal speed when the dial is rotated fully counterclockwise, and +3 times normal speed when rotated clockwise. The dial clicks at the positions of still-picture and normal playback speed.

Capstan override mode: Rotating the dial while holding down the PLAY button changes the playback speed by up to ±15%.

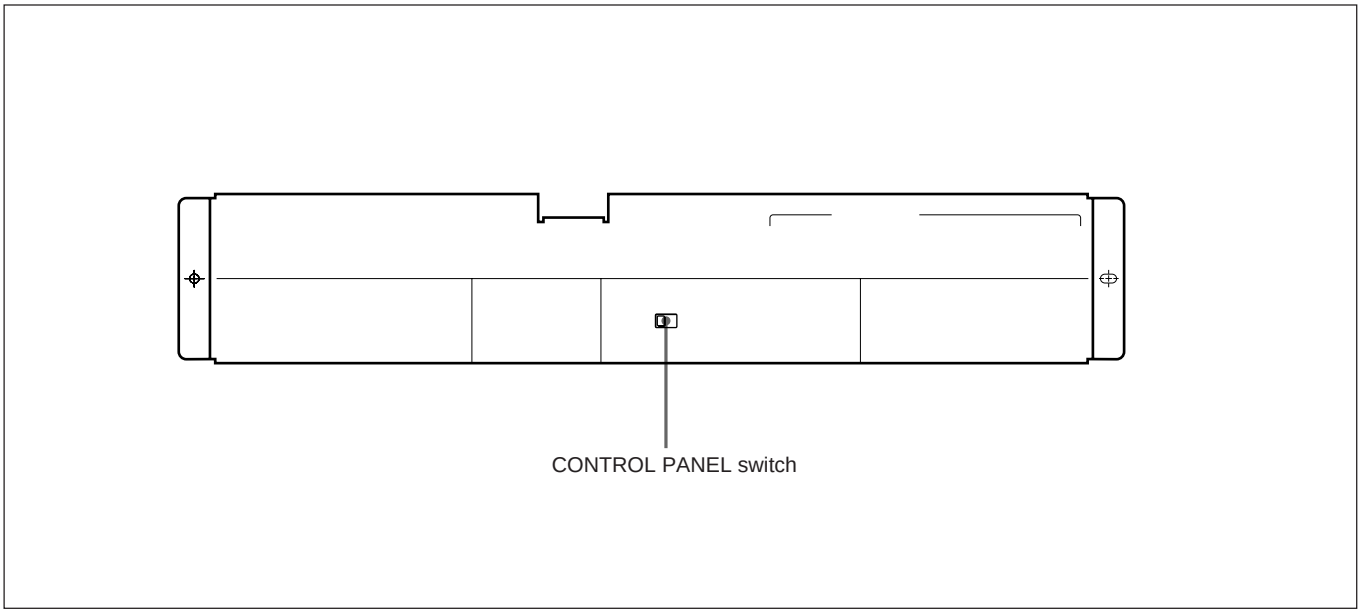
After turning the power on, always set the search dial at the center position (where the ■ indicator lights up).

2-2 System Set-Up Panel

Lift the lower control panel up to its horizontal position to access the system set-up panel.



Accessing the system set-up panel



System set-up panel

CONTROL PANEL switch

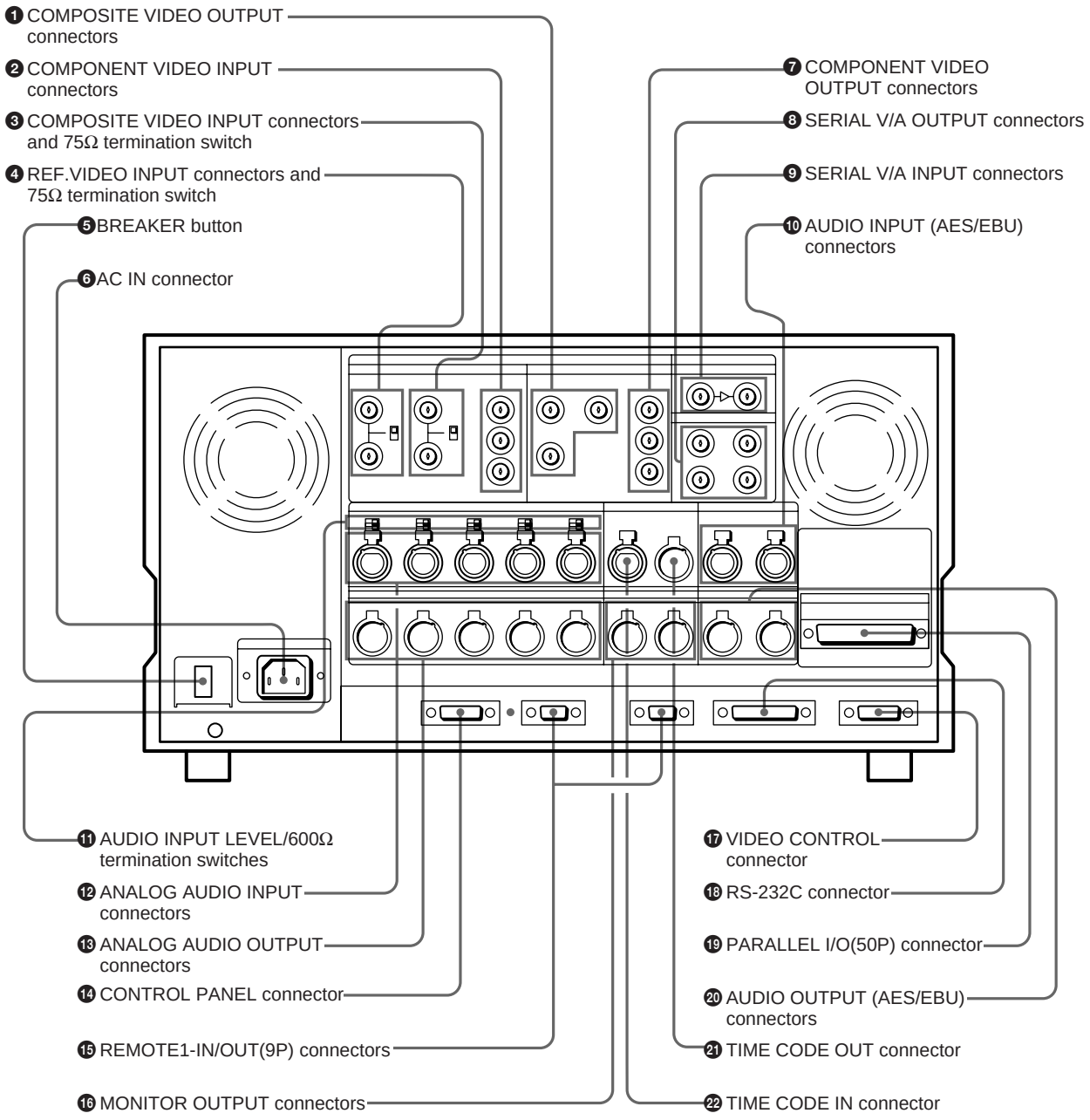
Selects which control panel controls this VTR.

INT: Control is by the control panel attached to this VTR.

EXT: Control is by the optional BKDW-514 connected to the CONTROL PANEL connector.

The switch is factory-set to INT.

2-3 Connector Panel


❶ COMPOSITE VIDEO OUTPUT connectors
❷ COMPONENT VIDEO INPUT connectors
❸ COMPOSITE VIDEO INPUT connectors and 75Ω termination switch
❹ REF.VIDEO INPUT connectors and 75Ω termination switch
❺ BREAKER button
❻ AC IN connector
❼ COMPONENT VIDEO OUTPUT connectors
❽ SERIAL V/A OUTPUT connectors
❾ SERIAL V/A INPUT connectors
❿ AUDIO INPUT (AES/EBU) connectors
⓫ AUDIO INPUT LEVEL/600Ω termination switches
⓬ ANALOG AUDIO INPUT connectors
⓭ ANALOG AUDIO OUTPUT connectors
⓮ CONTROL PANEL connector
⓯ REMOTE1-IN/OUT(9P) connectors
⓰ MONITOR OUTPUT connectors
⓱ VIDEO CONTROL connector
⓲ RS-232C connector
⓳ PARALLEL I/O(50P) connector
⓴ AUDIO OUTPUT (AES/EBU) connectors
㉑ TIME CODE OUT connector
㉒ TIME CODE IN connector

Connector panel

❶ COMPOSITE VIDEO OUTPUT connectors (BNC)
Output analog composite video signals. The signal output to connector 3(SUPER) contains superimposed characters for time data or menu settings when on is selected with the ALT button and F6 (CHARA SUPER) button in the TC menu.

❷ COMPONENT VIDEO INPUT connectors (BNC)
Accept analog component video signals (Y/R-Y/B-Y).

❸ COMPOSITE VIDEO INPUT connectors (BNC) and 75Ω termination switch (with optional BKDW-505 for DVW-A500/1 and 500/1, or BKDW-506 for DVW-A500P/1 and 500P/1)
Accepts analog composite video signal.
Set the 75Ω termination switch to OFF when this VTR is bridge-connected. Otherwise, set it to ON.

❹ REF.VIDEO INPUT connectors (BNC) and 75Ω termination switch
One of these connectors accepts a reference video signal. Use a video signal with chroma burst (BVS) or a black and white video signal (VS) as a reference video signal.
When making a bridge connection with a loop-through output, set the 75Ω termination switch to OFF. Otherwise, set it to ON.

❺ BREAKER button
Disconnects the primary circuit of the AC power transformer should an excessive current be detected.

❻ AC IN connector
Connects to an AC outlet using the power cord supplied with the VTR.

❼ COMPONENT VIDEO OUTPUT connectors (BNC)
Output analog component video signals (Y/R-Y/B-Y).

❽ SERIAL V/A (video/audio) OUTPUT connectors (BNC)
Output up to four (1 to 4) serial digital video/audio signal lines. The signal output to connector 4(SUPER) contains superimposed characters for time data or menu settings when on is selected with the ALT button and F6 (CHARA SUPER) button in the TC menu.

❾ SERIAL V/A (video/audio) INPUT connectors (BNC)
The left connector accepts serial digital video/audio signals. When the VTR is powered on, the right connector serves as an active loop-through output to allow a bridge connection.

❿ AUDIO INPUT (AES/EBU) connectors (XLR-3-31)
Accept up to two lines (four channels: channels 1/2 and channels 3/4) of AES/EBU format digital audio signals.

⓫ AUDIO INPUT LEVEL/600Ω termination switches
Set according to the audio input level of each channel input to the ANALOG AUDIO INPUT connectors and the audio input impedance.
LOW with OFF:
Audio input level: –60 dBu (microphone input)
Audio input impedance: High (about 20 kΩ)
HIGH with OFF:
Audio input level: +4 dBu (line input)
Audio input impedance: High (about 20 kΩ)
HIGH with ON:
Audio input level: +4 dBm (line input)
Audio impedance: 600 Ω

⓬ ANALOG AUDIO INPUT connectors (XLR-3-32)
Accept up to five analog audio signal lines (channels 1 to 4 and cue).

⓭ ANALOG AUDIO OUTPUT connectors (XLR-3-31)
Output up to five analog audio signal lines (channels 1 to 4 and cue).

⓮ CONTROL PANEL connector (15-pin)
Connects the control panel through the 15-pin cable supplied with the optional BKDW-510 Control Panel Extension Kit when using the control panel as a remote controller.

⓯ REMOTE1-IN/OUT (9P) connectors (D-sub 9-pin)

Connect to another DVW-500/1 or 500P/1 VTR or D-1, D-2, or Betacam VTR through a 9-pin remote control cable. Used when you edit using two VTRs and the BVE-900/910/2000/9000/9100 Editing Control Unit. The REMOTE1-IN and OUT connectors can be used to make a bridge connection.

⓰ MONITOR OUTPUT connectors (XLR-3-31)

Output signals for audio monitoring. These connectors output two signal lines: L and R. Select the signals to be output with the MONITOR SELECT buttons and the AUDIO INPUT/MONITOR SELECT buttons on the upper control panel. Through an initial setting, you can enable the adjustment of the volume level with the PHONES level control.

For details, refer to "5-1-2 Selecting Audio Signals"on page 5-2.

⓱ VIDEO CONTROL connector (D-sub 15-pin)

Connects to the optional BVR-50/50P TBC Remote Controller to enable remote control of the internal digital video processor. Before connecting the remote controller, turn off the power to the VTR.

⓲ RS-232C connector (D-sub 25-pin)

Receives or transmits RS-232C remote control signals and/or VTR status data from/to external equipment. When this connector is being used for communication, the RS-232C indicator on the upper control panel lights up.

⓳ PARALLEL I/O(50P) connector (D-sub 50-pin, with optional BKDW-509)

Inputs an external remote control signal.

For details, refer to the Installation Manual.

⓴ AUDIO OUTPUT (AES/EBU) connectors (XLR-3-32)

Output a maximum of two lines (four channels: channels 1/2 and 3/4) of AES/EBU format digital audio signals.

㉑ TIME CODE OUT connector (XLR-3-31)

Outputs one of the following time codes according to the VTR operation mode.

In playback mode: Playback time code

In recording mode: Time code generated by the internal time code generator, or time code input to the TIME CODE IN connector.

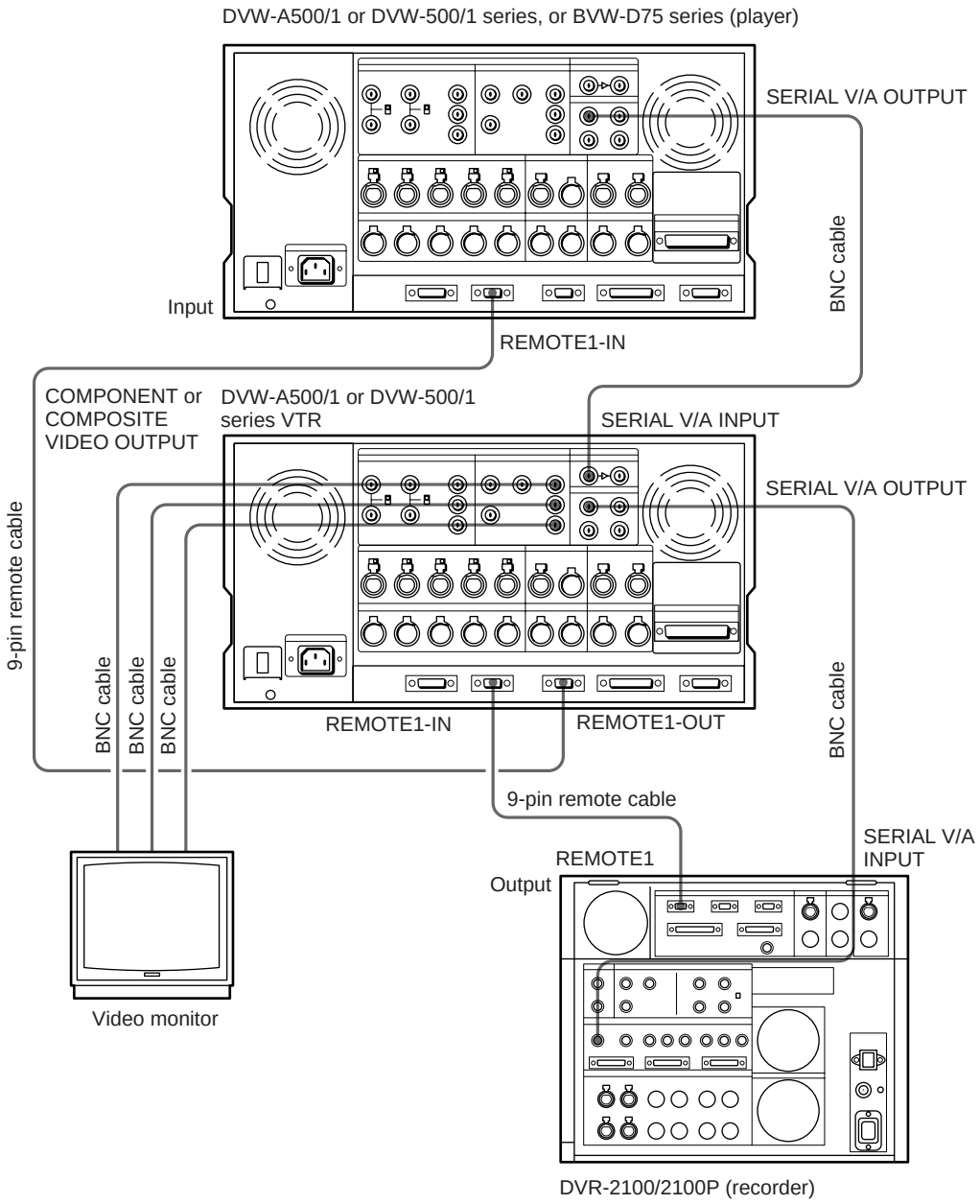
㉒ TIME CODE IN connector (XLR-3-32)

Accepts an external time code for recording to tape. Connect to the time code output connector of the external equipment.

3-1 Connecting External Equipment

3-1-1 Making Digital Connections

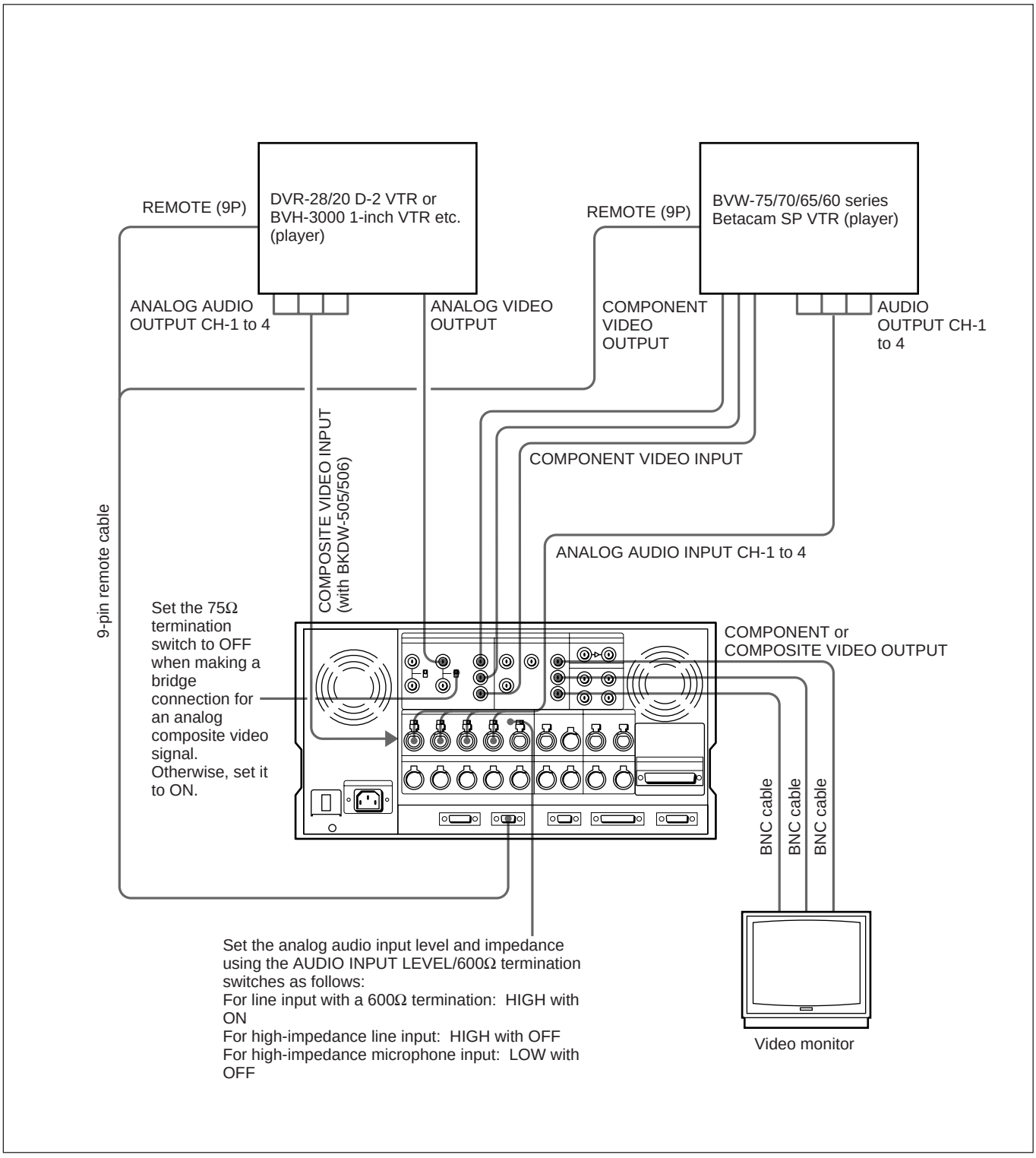
The diagram below shows how to connect this VTR to another DVW-A500/1 series or 500/1 series VTR used as a player and to a DVR-2100/2100P D-1 Component Digital VTR used as a recorder.



Making digital connections

3-1-2 Making Analog Connections

The diagram below shows how to make connections for analog video and audio signals from a Betacam/ Betacam SP VTR, 1-inch VTR, or D-2 VTR.


REMOTE (9P)
DVR-28/20 D-2 VTR or BVH-3000 1-inch VTR etc. (player)
REMOTE (9P)
BVW-75/70/65/60 series Betacam SP VTR (player)
ANALOG AUDIO OUTPUT CH-1 to 4
ANALOG VIDEO OUTPUT
COMPONENT VIDEO OUTPUT
AUDIO OUTPUT CH-1 to 4
COMPOSITE VIDEO INPUT (with BKDW-505/506)
COMPONENT VIDEO INPUT
ANALOG AUDIO INPUT CH-1 to 4
9-pin remote cable
Set the 75Ω termination switch to OFF when making a bridge connection for an analog composite video signal. Otherwise, set it to ON.
COMPONENT or COMPOSITE VIDEO OUTPUT
BNC cable
BNC cable
BNC cable
Set the analog audio input level and impedance using the AUDIO INPUT LEVEL/600Ω termination switches as follows:
For line input with a 600Ω termination: HIGH with ON
For high-impedance line input: HIGH with OFF
For high-impedance microphone input: LOW with OFF
Video monitor

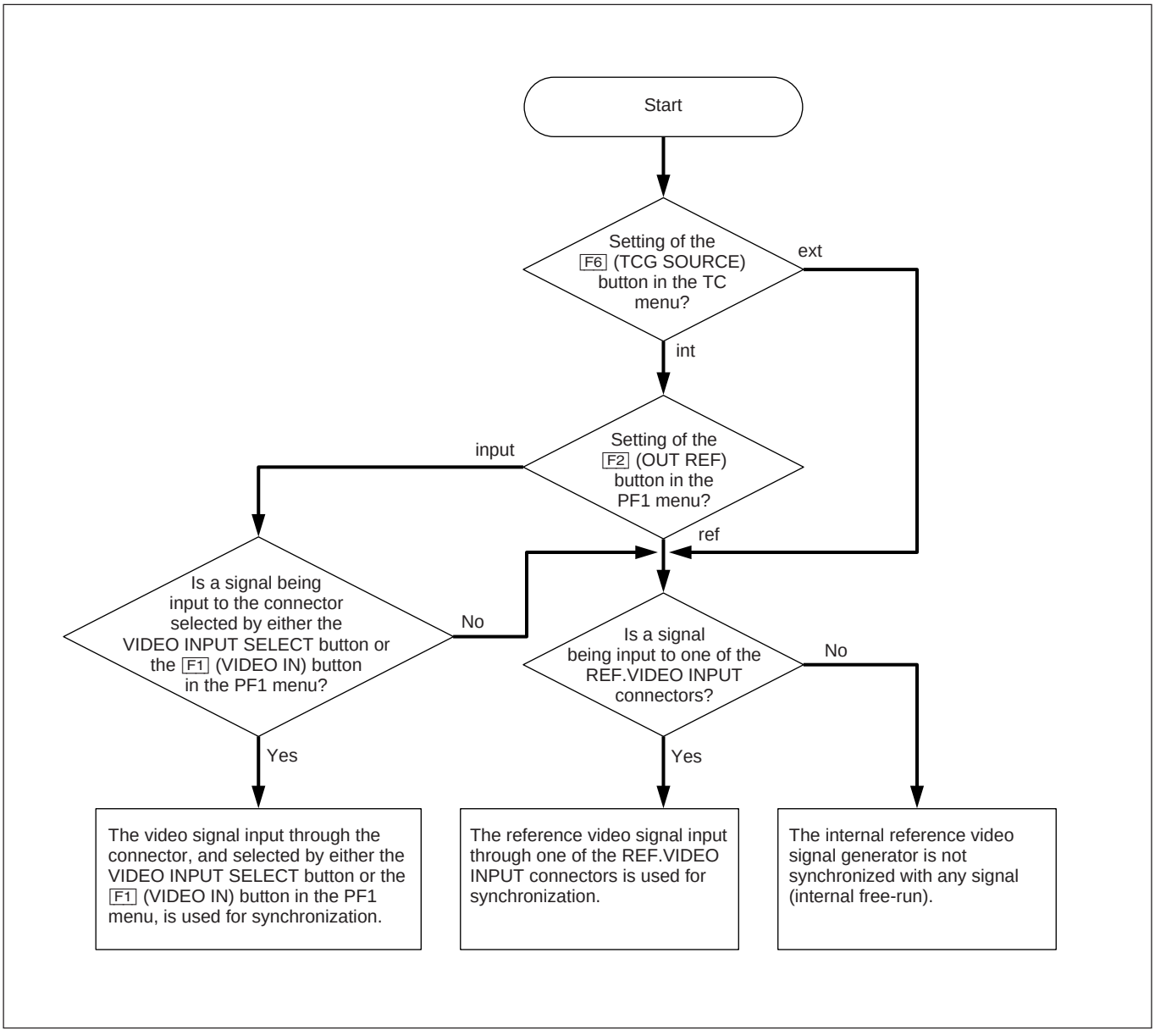
Making analog connections

3-2 Reference Signals for Video Output and Servo System

This section describes how reference signals for the video output and servo system are selected.
The output from the internal reference video signal generator is supplied as a reference signal for the video output signals and servo circuits.

3-2-1 External Sync Signal for the Internal Reference Video Signal Generator

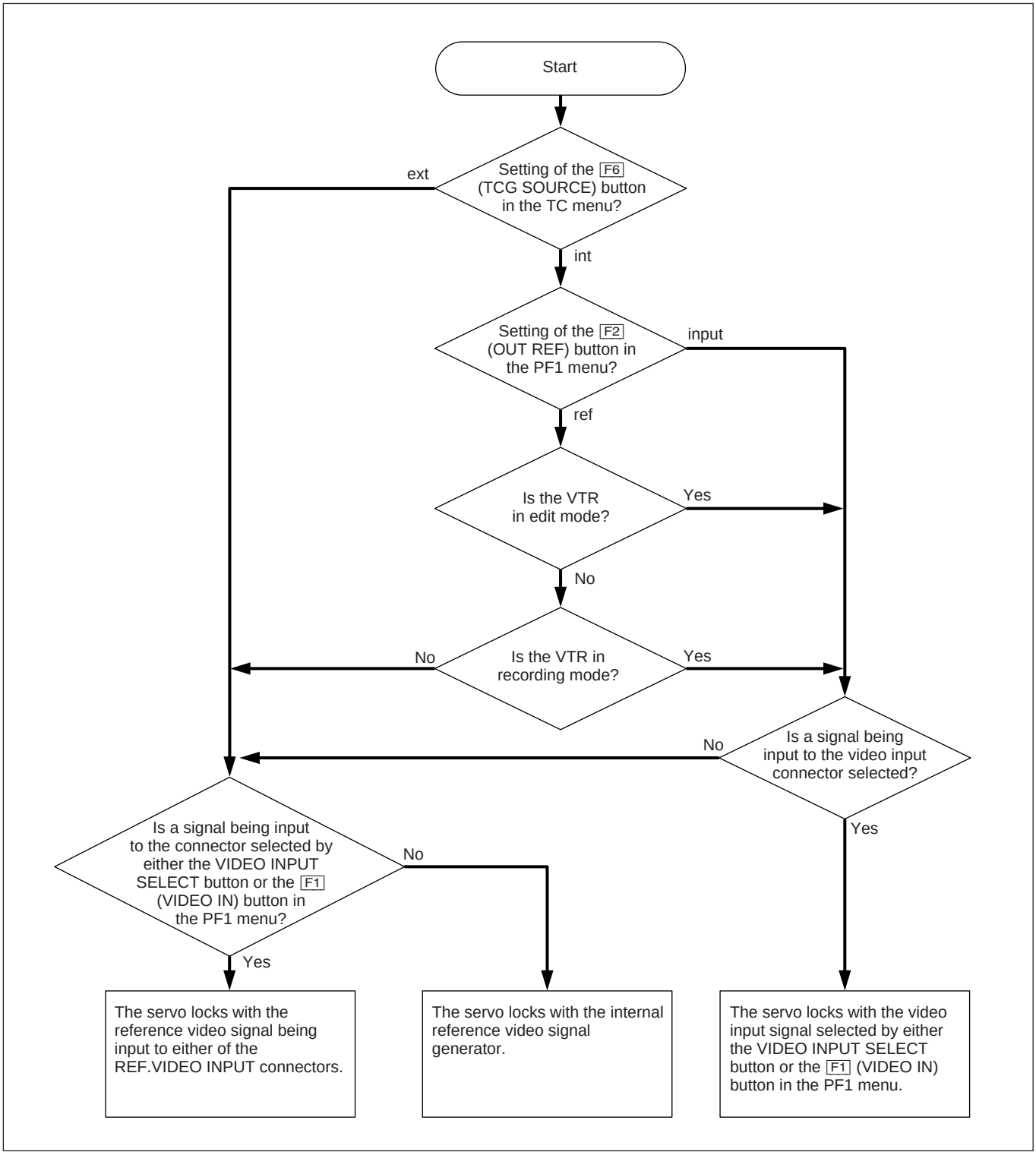
The internal reference video signal generator synchronizes with either the input reference video signal or a video input signal. Which of the two signals is used for synchronization depends on the signal input conditions and the setting of the F2 (OUT REF) button in the PF1 menu, as shown in the following flow chart.


Start
Setting of the F6 (TCG SOURCE) button in the TC menu?
ext
int
Setting of the F2 (OUT REF) button in the PF1 menu?
input
ref
Is a signal being input to the connector selected by either the VIDEO INPUT SELECT button or the F1 (VIDEO IN) button in the PF1 menu?
No
Yes
Is a signal being input to one of the REF.VIDEO INPUT connectors?
No
Yes
The video signal input through the connector, and selected by either the VIDEO INPUT SELECT button or the F1 (VIDEO IN) button in the PF1 menu, is used for synchronization.
The reference video signal input through one of the REF.VIDEO INPUT connectors is used for synchronization.
The internal reference video signal generator is not synchronized with any signal (internal free-run).

Automatic selection of external sync signal for the internal reference video signal generator

3-2-2 Reference Signal for the Servo System

The VTR automatically selects either the video input signal or the output from the internal reference video signal generator as the reference signal for the servo system. Which of the two signals is selected depends on the operational status of the VTR, as shown in the following flow chart.


Start
Setting of the F6 (TCG SOURCE) button in the TC menu?
ext
int
Setting of the F2 (OUT REF) button in the PF1 menu?
input
ref
Is the VTR in edit mode?
Yes
No
Is the VTR in recording mode?
No
Yes
Is a signal being input to the video input connector selected?
No
Yes
Is a signal being input to the connector selected by either the VIDEO INPUT SELECT button or the F1 (VIDEO IN) button in the PF1 menu?
No
Yes
The servo locks with the reference video signal being input to either of the REF.VIDEO INPUT connectors.
The servo locks with the internal reference video signal generator.
The servo locks with the video input signal selected by either the VIDEO INPUT SELECT button or the F1 (VIDEO IN) button in the PF1 menu.

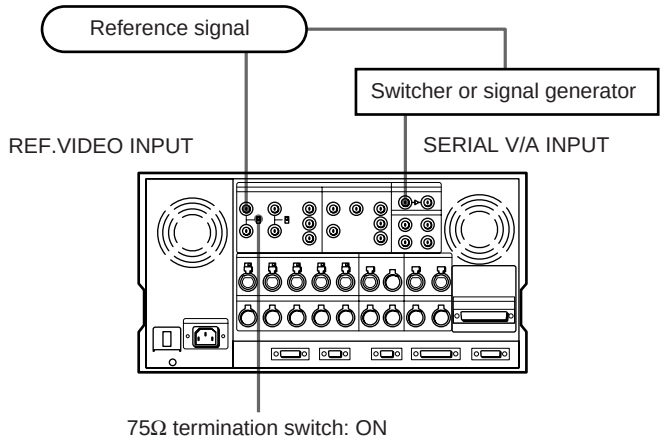
Automatic selection of reference signal for the servo system

3-2-3 Reference Signals Connections

Make the reference signal connections as follows,
according to your recording or playback requirements.

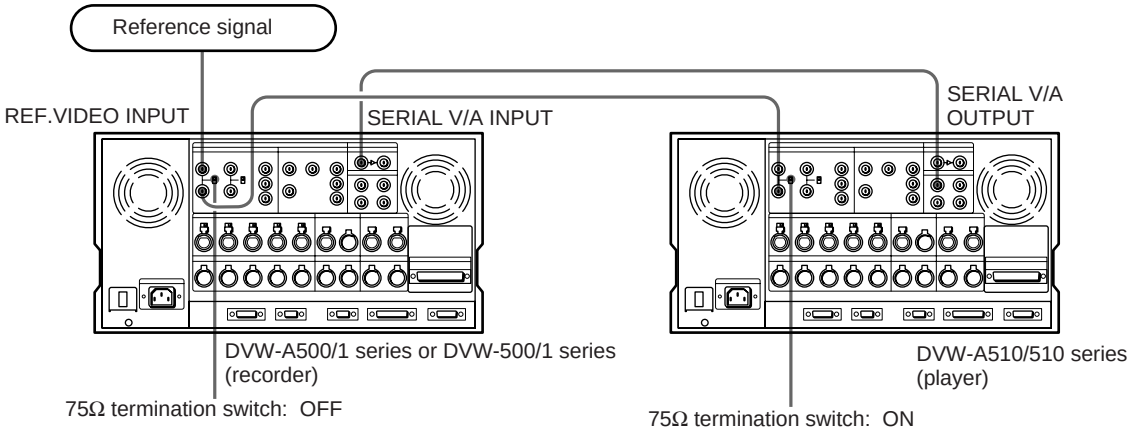
Reference signal connections

For recording signals from a switcher or signal generator



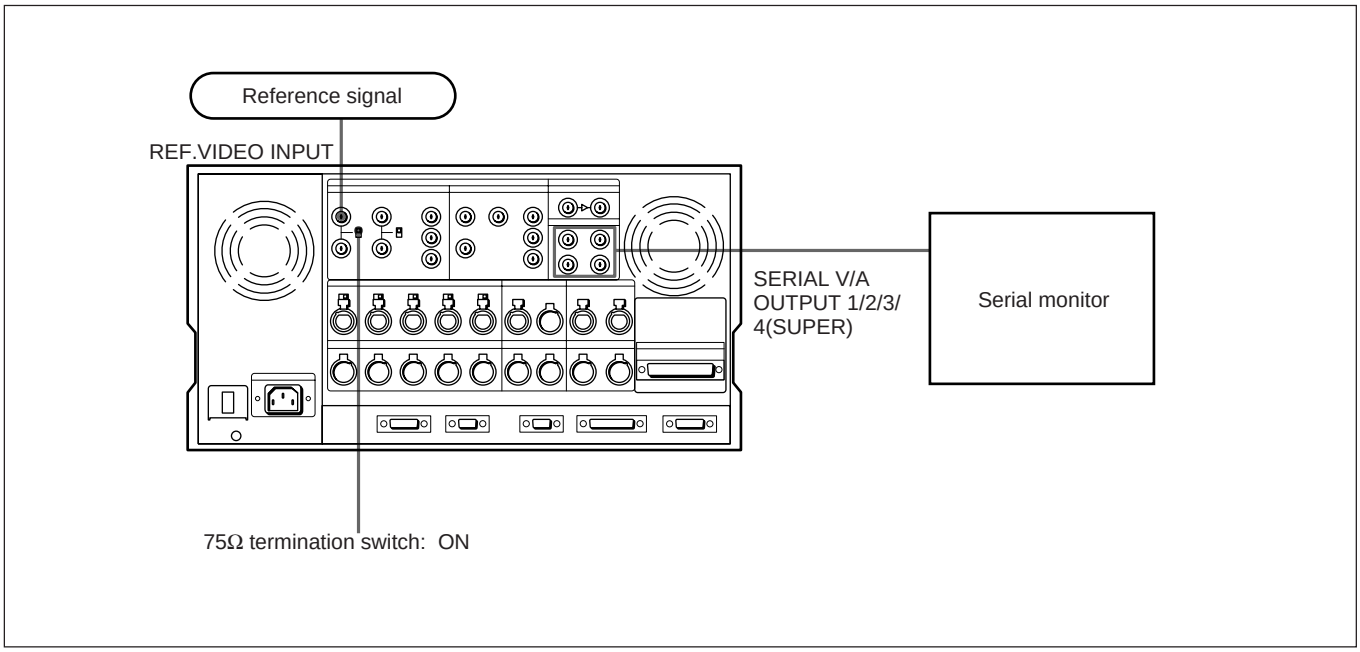
For recording signals from a switcher or signal generator

For recording signals from a VTR



For recording signals from a VTR

For playback



For playback

3-3 Handling Cassettes

3-3-1 Recommended Cassettes

For the DVW-A500/1 series

You can use 1/2-inch Digital Betacam video cassettes for both recording and playback, and 1/2-inch Betacam/Betacam SP video cassettes for playback only.

For the DVW-500/1 series

You can use 1/2-inch Digital Betacam video cassettes only.

Digital Betacam cassettes

S-size cassettes	BCT-D6/D12/D22/D32/D40
L-size cassettes	BCT-D34L/D64L/D94L/D124L

Betacam/Betacam SP cassettes

	Metal tape	Oxide tape
S-size cassettes	BCT-5MA/10MA/20MA/30MA	BCT-5G/10G/20G/30G
L-size cassettes	BCT-5MLA/10MLA/20MLA/30MLA/60MLA/90MLA	BCT-5GL/10GL/20GL/30GL/60GL/90GL

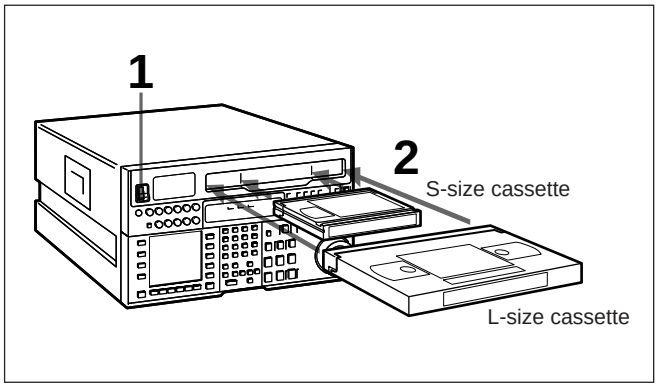
Storage of cassettes

Store your cassettes at room temperature and normal humidity.

3-3-2 Inserting and Ejecting Cassettes

Always turn on the VTR before attempting to insert or eject cassettes.

Inserting a cassette



Inserting a cassette

1 Set the POWER switch to ON.

2 Before inserting a cassette, check the following points:
- There is no slack in the tape.
- An error message does not appear in the menu display.
- The window of the cassette is facing up.

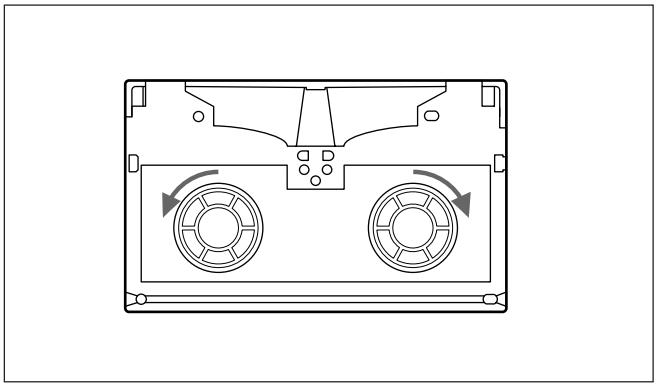
If there is any slack in the tape, refer to "Removing slack in the tape" on next page.

When inserting an S-size cassette, make sure it is aligned with the marks on the cassette insertion slot.

The cassette is loaded automatically, and the tape is wound around the drum. The head-drum starts to rotate, the tape stops, and the STANDBY and STOP buttons light up.
When a Betacam/Betacam SP video cassette is loaded into a DVW-A500/1 series VTR, the DIGITAL indicator goes off.
When a Betacam/Betacam SP video cassette is loaded into a DVW-500/1 series VTR, the cassette is automatically ejected.

Removing slack in the tape

Press one of the reels in slightly, then carefully rotate it in the direction of the arrow until it stops.



Removing slack in the tape

Preventing double cassette inserting

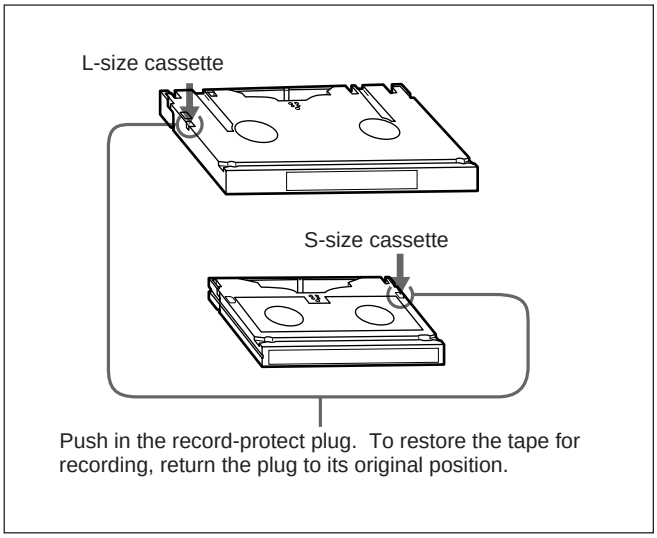
When a cassette is loaded, an orange lock-out bar appears in the cassette insertion slot to prevent users from attempting to load another cassette.

Ejecting the cassette

Press the EJECT button.
The tape is unthreaded and the cassette is automatically ejected. This operation takes a few seconds.

3-3-3 Preventing Accidental Erasure

To prevent accidental erasure of material recorded on a tape, push in the record-protect plug.


L-size cassette
S-size cassette
Push in the record-protect plug. To restore the tape for recording, return the plug to its original position.

Preventing accidental erasure

When a cassette with this plug pushed in is inserted into the VTR, the REC INHIBIT indicator on the lower control panel lights up and recording will not start, even if you press the REC button.
To restore the tape for recording, return the plug to its original position.

4-1 Registering and Storing Menu Settings

The operating conditions of the VTR are set by the menu operation section on the lower control panel. Menu items are divided among six different menus (HOME, TC, CUE, PF1, PF2, SET UP).
Of these menus, the PF1/PF2 (Personal Function) menus can be used to register frequently used menu items from the other menus, allowing faster setting of VTR operating conditions. Eight VTR memory banks are provided for storing up to eight sets of menu settings. The contents of the eight VTR memory banks can, in turn, be stored on an IC memory card for later recall.

4-1-1 Menu Configuration

In addition to the six main menus, the VTR has two supplementary menus containing items not contained in the main menus.

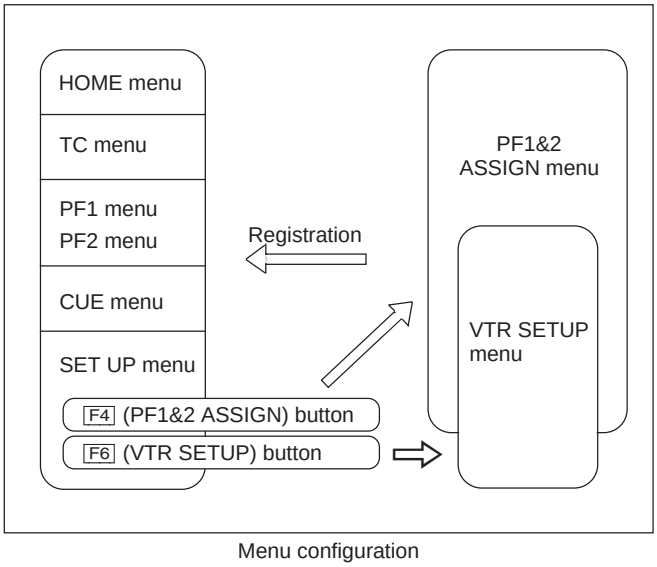
PF1&2 ASSIGN menu
This menu contains items that can be registered to the PF1/2 menus.
Press the F4 (PF1&2 ASSIGN) button in the SET UP menu to display this menu.

For details on registering items in the PF1&2 ASSIGN menu to the PF1/2 menus, refer to "4-1-3 Registering Items to the PF1/2 Menus" on page 4-3.

VTR SETUP menu
This menu contains items that specify the initial operating conditions of the VTR. You can change these settings directly without registering the items to the PF1/2 menus.
Press the F6 (VTR SETUP) button in the SET UP menu to display this menu.

For details on setting operating conditions of the VTR, refer to "4-7-1 VTR SETUP Menu" on page 4-40.

The menu configuration of the VTR is shown in the figure below,

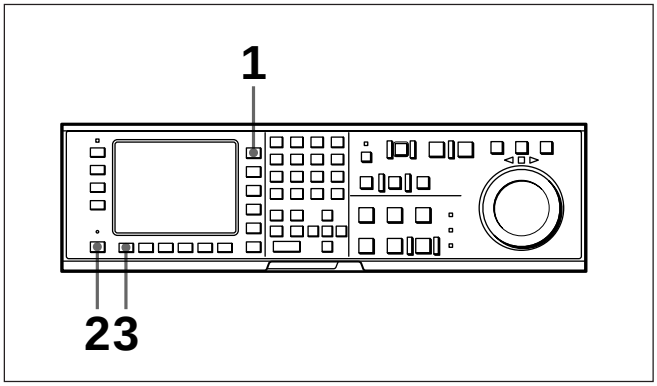


Menu configuration

- All items in the HOME, TC, and CUE menus can be duplicated and registered to the PF1/2 menus.
- Most items in the VTR SETUP menu can be registered to the PF1/2 menus.

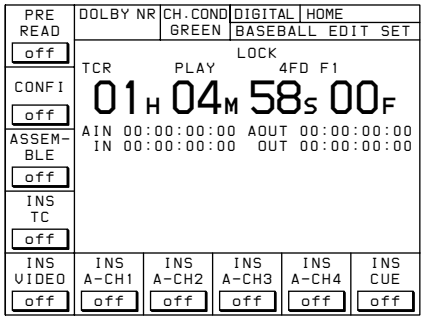
4-1-2 Changing Menu Settings

To activate the HOME, TC, CUE, PF1, PF2, or SET UP menu, press the respective menu button.
Menu items are assigned to function buttons (F1 to F10) in each menu. When two items are registered to the same function button, you can display the second item by pressing the ALT button.
The example below describes the procedure for changing the setting of capstan servo lock mode specified by the ALT button and F5 (CAP LOCK) button in the HOME menu.

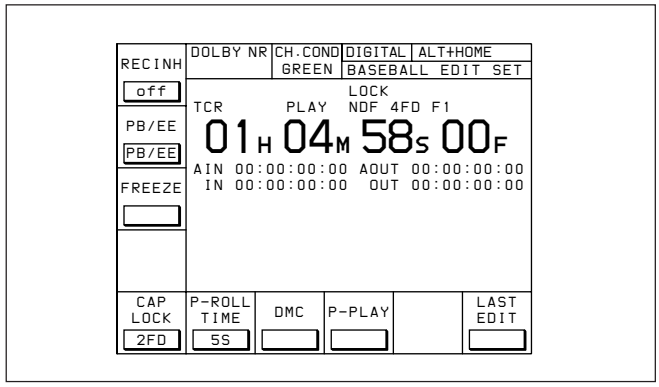


Changing menu settings

1 Press the HOME button.
The first page of the HOME menu appears in the display.



2 Press the ALT button.
The second page of the HOME menu appears in the display.



To return to the first page
Press the ALT button again.

3 Press the F5 (CAP LOCK) button to change the capstan servo lock mode setting.
Each press of the button changes the setting.

Changing menu settings using the cursor control buttons

You may also use the cursor control buttons to select menu items and change menu settings by moving the on-screen cursor.
For settings which cannot be made by the function buttons alone, the following icons appear in the bottom-right of the menu to indicate the use of the cursor control buttons:

- : All cursor control buttons
- : Cursor control buttons for horizontal direction
- : Cursor control buttons for vertical direction

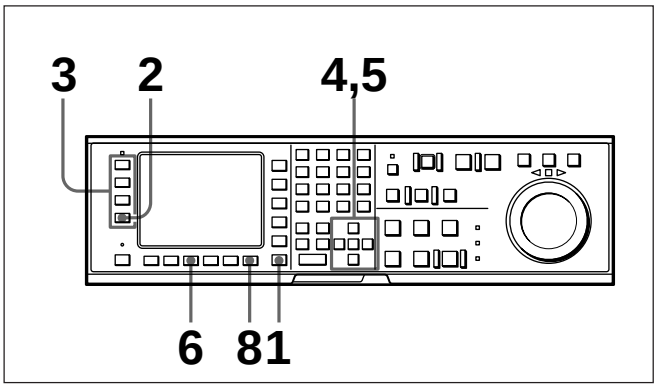
In addition to operations using the cursor control buttons, some menus allow you to change a value by using the +/– buttons.

4-1-3 Registering Items to the PF1/2 Menus

You can register up to 40 items to the PF (Personal Function) 1/2 menus, including items that are displayed when the ALT button is pressed. The registration of items from different menus to the PF1/2 menus eliminates the need for changing menus in order to change a given VTR operating condition.

For details on the factory-set PF1/2 menus, refer to "4-5 PF1 Menu (Factory Settings)" on page 4-33 and "4-6 PF2 Menu (Factory Settings)"on page 4-36.

Registering items to the PF1/2 menus



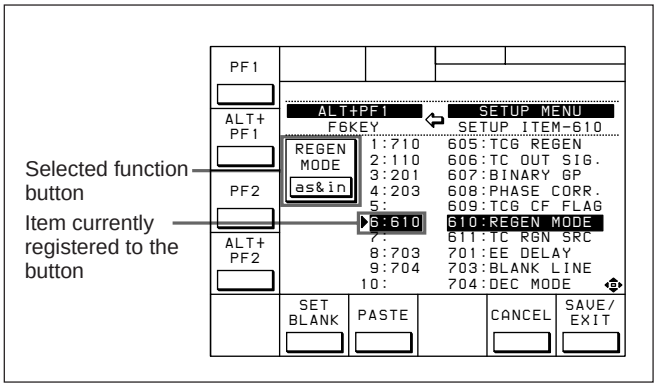
Registering items to the PF1/2 menus

1 Press the SET UP button.
The SET UP menu appears in the display.

2 Press the F4 (PF1&2 ASSIGN) button.
The PF1&2 ASSIGN menu appears in the display.

3 Press the F1 (PF1), F2 (ALT+PF1), F3 (PF2) or F4 (ALT+PF2) button to select the PF menu where you wish to register an item.
The selected PF menu appears and the items currently registered to the menu appear at the left of the display.

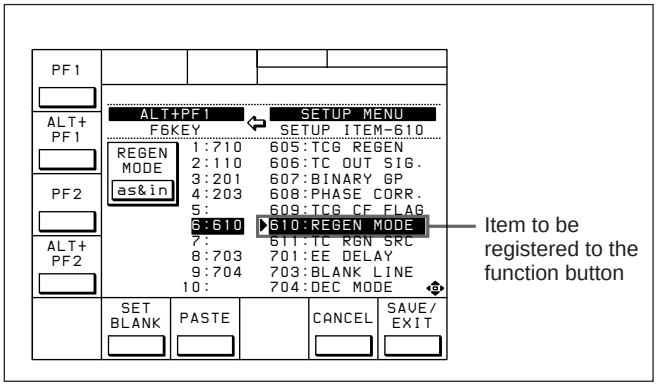
4 Press the ⍓ or ⍒ button to move the cursor (▶) to the function button where the item is to be registered.
The selected function button is highlighted and the currently registered item appears.



To cancel a currently registered item
Press the F6 (SET BLANK) button.

5 Press the ⍈ button to move the cursor (▶) to the PF1&2 ASSIGN menu, then press the ⍓ or ⍒ button to move the cursor to the menu item to be registered to the function button.

To scroll the menu faster
Press the ⍓ or ⍒ button while holding down the SFT button.



6 Press the F7 (PASTE) button to register the item.
The new item is registered to the function button.

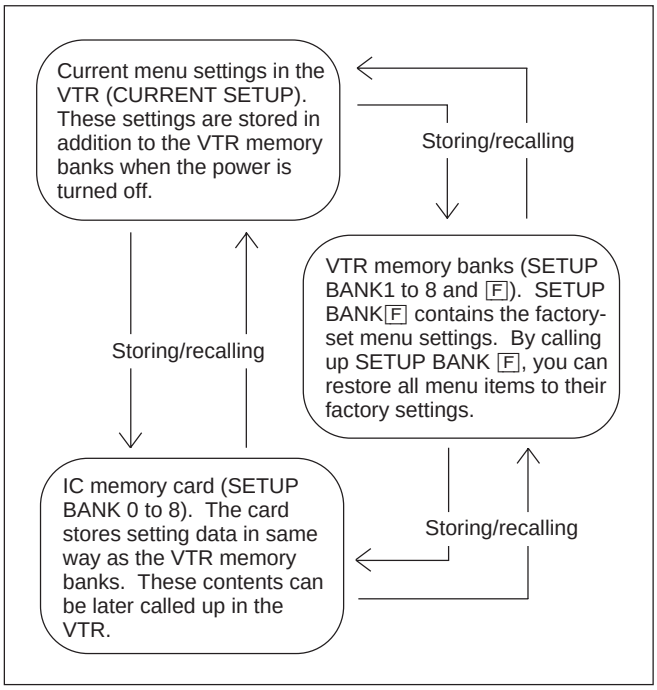
7 Repeat Steps **3** to **6** to register more items.

To cancel the registration of all new items
Press the F9 (CANCEL) button.

8 Press the F10 (SAVE/EXIT) button to save the newly registered items.
The registration is completed and the SET UP menu appears in the display again.

4-1-4 VTR Memory Bank Function

Eight VTR memory banks are provided for storing up to eight sets of menu settings including items registered to the PF1/2 menus with titles.
The contents of all eight VTR memory banks can be stored on an IC memory card.


Current menu settings in the VTR (CURRENT SETUP). These settings are stored in addition to the VTR memory banks when the power is turned off.
Storing/recalling
VTR memory banks (SETUP BANK1 to 8 and F). SETUP BANK F contains the factory-set menu settings. By calling up SETUP BANK F, you can restore all menu items to their factory settings.
Storing/recalling
IC memory card (SETUP BANK 0 to 8). The card stores setting data in same way as the VTR memory banks. These contents can be later called up in the VTR.
Storing/recalling

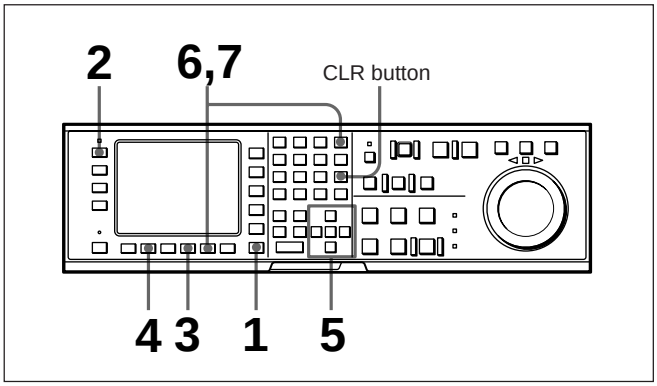
VTR memory bank function

For details on IC memory card use, refer to "4-1-5 IC Memory Card Function" on page 4-6.
For details on adding titles to the contents of the VTR memory bank, refer to "4-1-6 Adding Titles to the Data" on page 4-11.

Note

The contents of SETUP BANK F cannot be changed.

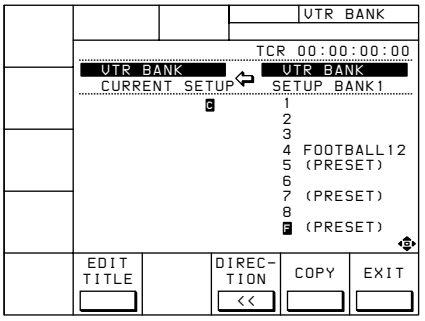
Storing the current VTR menu settings to a VTR memory bank



Storing the current VTR menu settings to a VTR memory bank

1 Press the SET UP button.
The SET UP menu appears in the display.

2 Press the F1 (VTR BANK) button.
The VTR BANK menu appears in the display.



3 Press the F8 (DIRECTION) button to select >>.

4 Press the ⊴ button to move the cursor (▶) to CURRENT SETUP C, then press the F6 (EDIT TITLE) button to add a title to the current menu settings of the VTR.

For details, refer to "4-1-6 Adding Titles to the Data" on page 4-11.

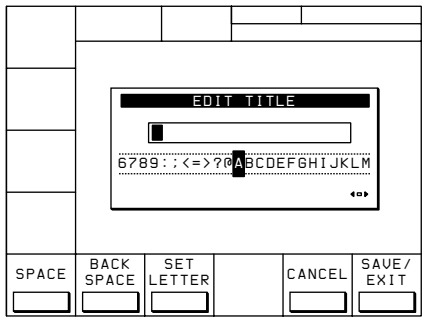
5 Press the ⊵ button to move the cursor (▶) to SETUP BANK, then press the △ or ▽ button to move the cursor to the number of the VTR memory bank to be used for saving the current menu settings.

6 Press the F9 (COPY) button.
A message asking you to confirm the operation appears in the display.

To cancel the storage operation
Press the CLR button.

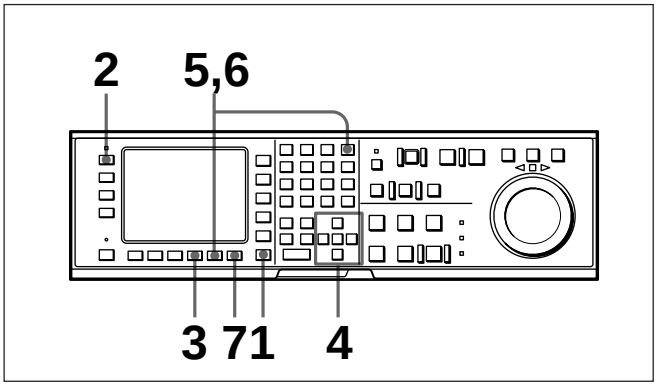
7 Press the F9 (COPY) button while holding down the SFT button.
The current menu settings are stored to the VTR memory bank.

To add or change a title for VTR settings after storing them to the VTR memory bank
Move the cursor (▶) to the number of the VTR where the settings are stored, then press the F6 (EDIT TITLE) button.



8 Press the F10 (EXIT) button.
The SET UP menu appears again.

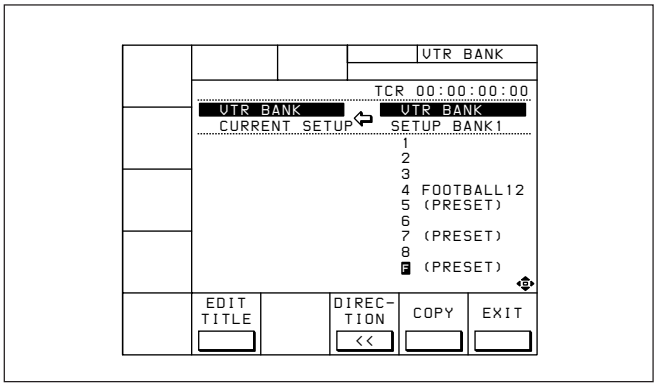
Recalling menu settings from a VTR memory bank



Recalling menu settings from a VTR memory bank

1 Press the SET UP button.
The SET UP menu appears in the display.

2 Press the F1 (VTR BANK) button.
The VTR BANK menu appears in the display.



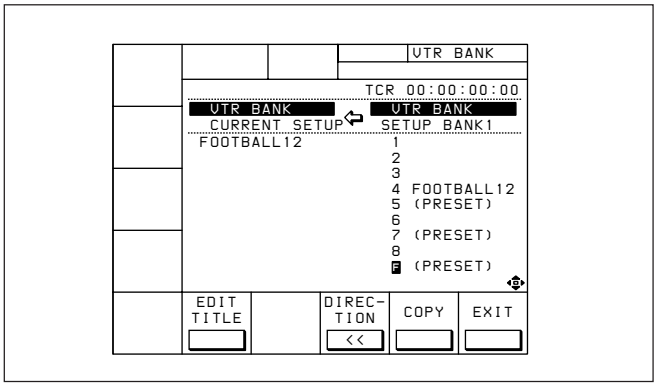
3 Press the F8 (DIRECTION) button and select <<.

4 Press the ⍓ or ⍗ button to move the cursor (▶) to the number of the VTR memory bank to be recalled.

5 Press the F9 (COPY) button.
A message asking you to confirm the operation appears in the display.

To cancel the recalling operation
Press the CLR button.

6 Press the F9 (COPY) button while holding down the SFT button.
The menu settings are recalled from the selected VTR memory bank.
When the recalling process has been completed, the title of the VTR bank appears under CURRENT SETUP in the display.

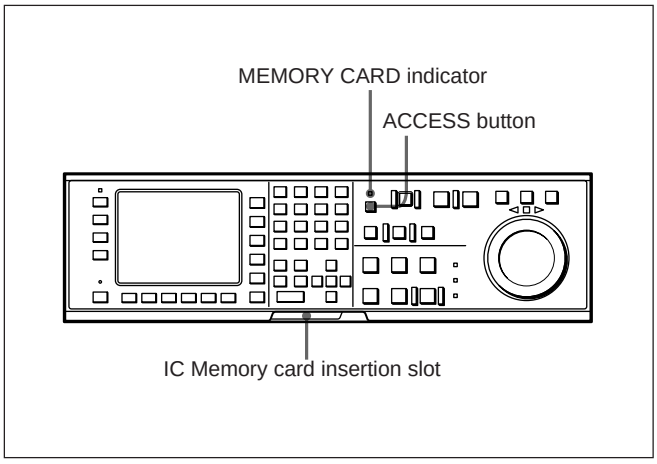


(Continued)

7 Press the F10 (EXIT) button.
The SET UP menu appears again.

4-1-5 IC Memory Card Function

You can store menu settings in the VTR memory banks and cue point data to an IC memory card for later recalling.
The MEMORY CARD indicator lights up when you insert an IC memory card.
You can then access the MEMORY CARD menu directly from other menus (HOME/TC/CUE/PF1/PF2) by pressing the ACCESS button.



IC memory card function

To eject the IC memory card

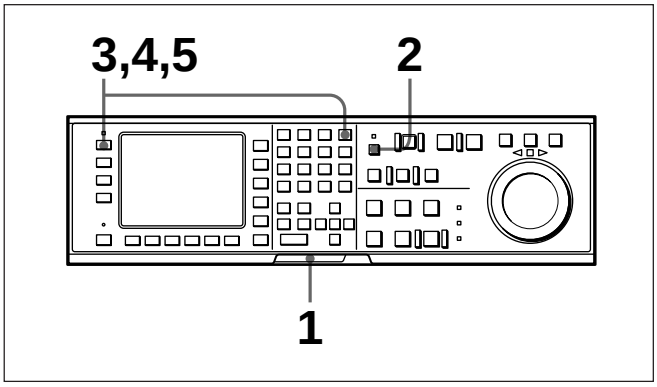
Press the button to the right of the insertion slot.

Notes

- Insert the IC memory card fully until it clicks.
- The ACCESS button flashes while the VTR is writing to or reading from an IC memory card. Do not eject the IC memory card while the indicator is flashing.

Formatting an IC memory card

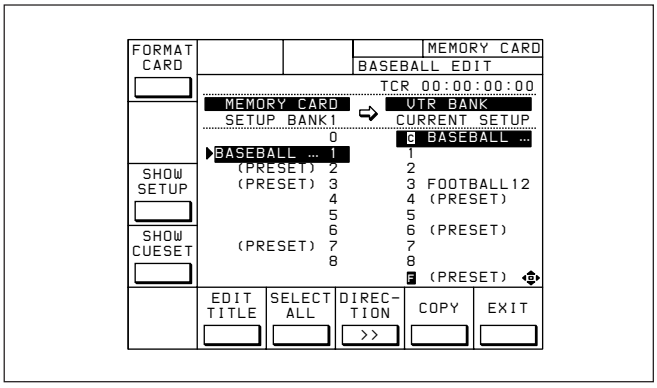
The supplied IC memory card or other IC memory cards must be formatted before you can use them.



Formatting an IC memory card

1 Insert the IC memory card.
The MEMORY CARD indicator lights up.

2 Press the ACCESS button.
MEMORY CARD menu appears in the display.



3 Press the F1 (FORMAT CARD) button.
A message asking you to confirm the operation appears in the display.

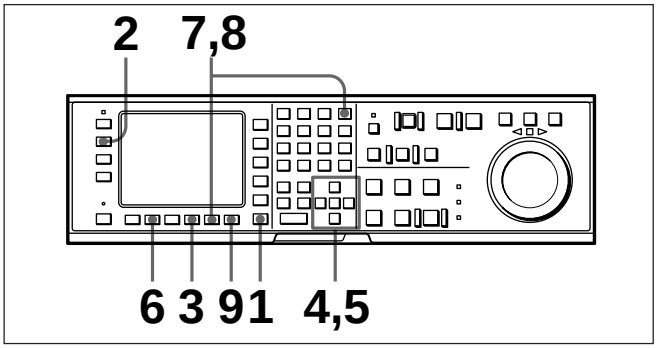
4 Press the F1 (FORMAT CARD) button while holding down the SFT button.
A message asking you to confirm the operation appears in the display again.

5 Press the F1 (FORMAT CARD) button while holding down the SFT button.
The VTR starts formatting the card.

To cancel formatting

Press the CLR button while the confirmation message appears in the display.

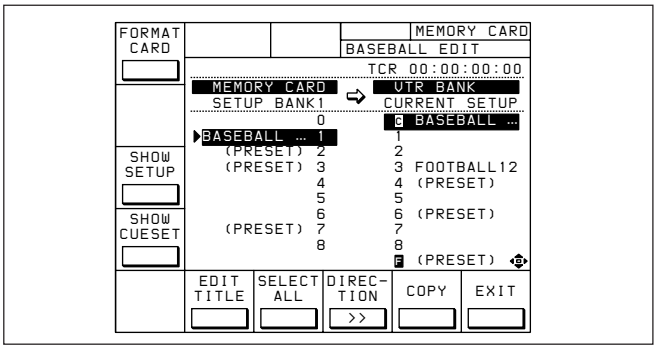
Storing the contents of the VTR memory banks to an IC memory card



Storing the contents of the VTR memory banks to an IC memory card

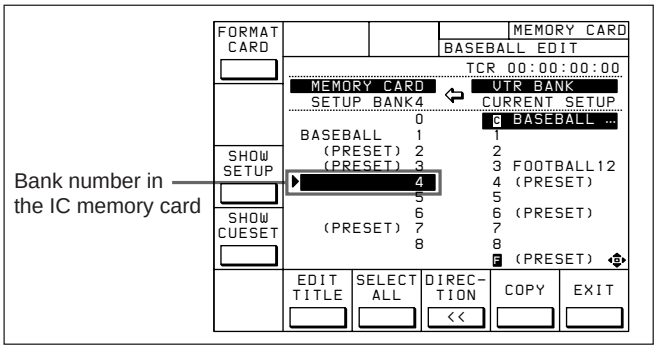
1 Press the SET UP button.
The SET UP menu appears in the display.

2 Press the F2 (MEMORY CARD) button.
The MEMORY CARD menu appears in the display.
You can access the MEMORY CARD menu directly by pressing the ACCESS button.

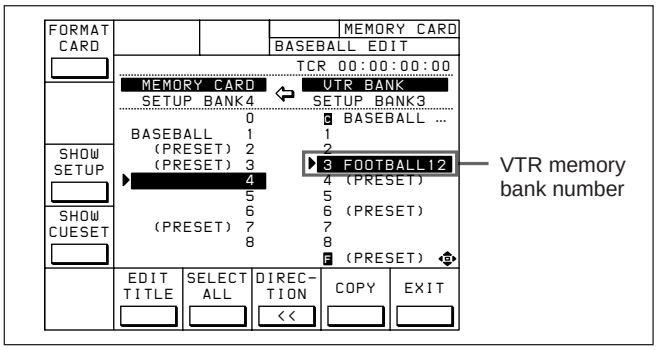


3 Press the F8 (DIRECTION) button and select <<.

4 Press the ⍓ or ⍒ button to move the cursor (▶) to the number of the VTR memory bank in the IC memory card where the data are to be stored.



5 Press the ⍄ button to move the cursor (▶) to the VTR side, then press the ⍓ or ⍒ button to move the cursor to the number of the VTR memory bank to be stored.



To store the current VTR menu settings only

Move the cursor (▶) to the C (CURRENT SETUP) position.

To store all VTR memory banks

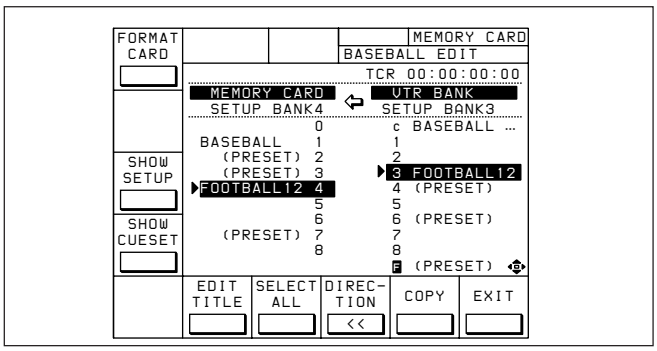
Press the F7 (SELECT ALL) button.

6 To change the title of the bank, press the F6 (EDIT TITLE) button.

For details, refer to "4-1-6 Adding Titles to the Data"on page 4-11.

7 Press the F9 (COPY) button.
A message asking you to confirm the operation appears in the display.

8 Press the F9 (COPY) button while holding down the SFT button.
The control panel stores the specified VTR memory bank to the IC memory card.
After the storage is complete, the title of the VTR memory bank appears under the MEMORY CARD indication.

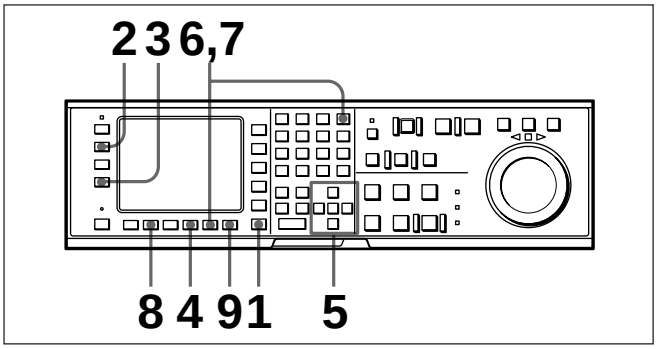


(Continued)

9 Press the F10 (EXIT) button.
The SET UP menu or the menu displayed before you pressed the ACCESS button appears again.

Storing cue point lists to an IC memory card

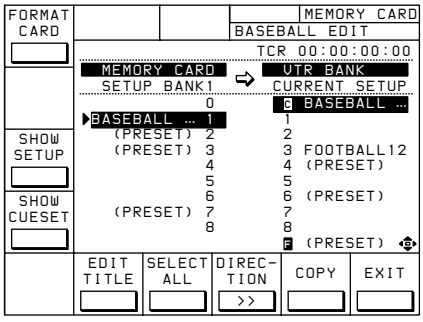
You can store up to 8 pages of cue point lists to an IC memory card along with titles.



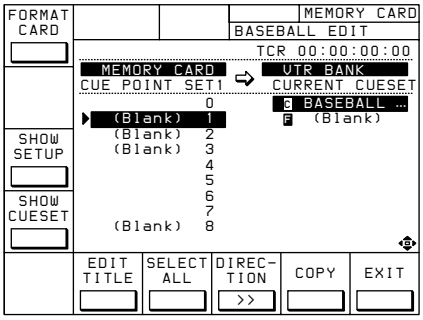
Storing cue point lists to an IC memory card

1 Press the SET UP button.
The SET UP menu appears in the display.

2 Press the F2 (MEMORY CARD) button.
The MEMORY CARD menu appears in the display.
You can access MEMORY CARD menu directly by pressing the ACCESS button.



3 Press the F4 (SHOW CUESET) button.
The display for storing cue point lists appears.

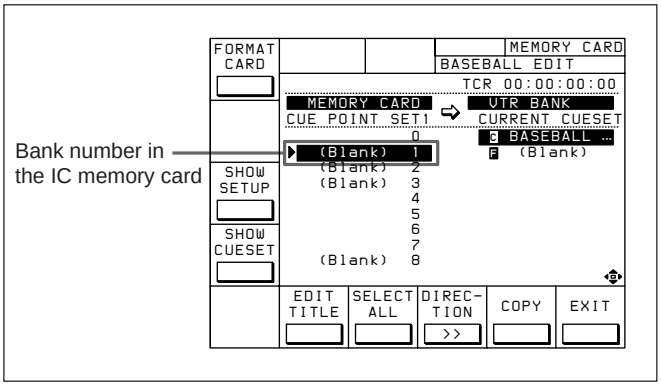


To return to the SET UP menu

Press the F3 (SHOW SETUP) button.

4 Press the F8 (DIRECTION) button to select <<.

5 Press the ⍓ or ⍗ button to move the cursor (▶) to the number of the memory bank in the IC memory card where you want to store the cue point list.



6 Press the F9 (COPY) button.
A message asking you to confirm the operation appears in the display.

7 Press the F9 (COPY) button while holding down the SFT button.
The VTR stores the cue point list to the IC memory card.

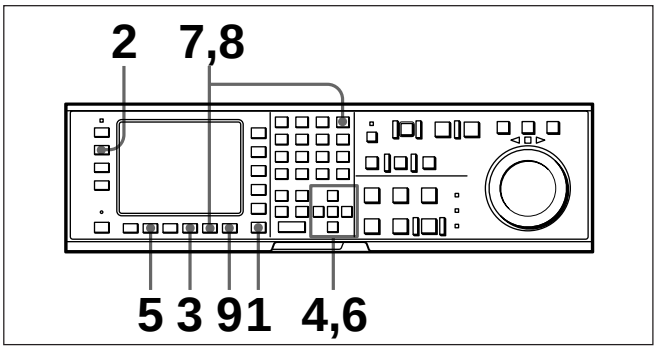
8 Press the F6 (EDIT TITLE) button to add a title to the cue point list.

For details, refer to "4-1-6 Adding Titles to the Data"on page 4-11.

9 Press the F10 (EXIT) button.
The SET UP menu or the menu displayed before you pressed the ACCESS button appears again.

Recalling the contents of an IC memory card

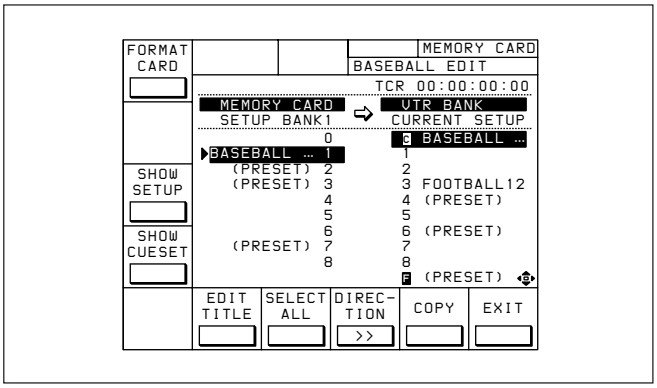
The contents stored in an IC memory card can be recalled to the current VTR bank or VTR memory bank.



Recalling the contents of an IC memory card

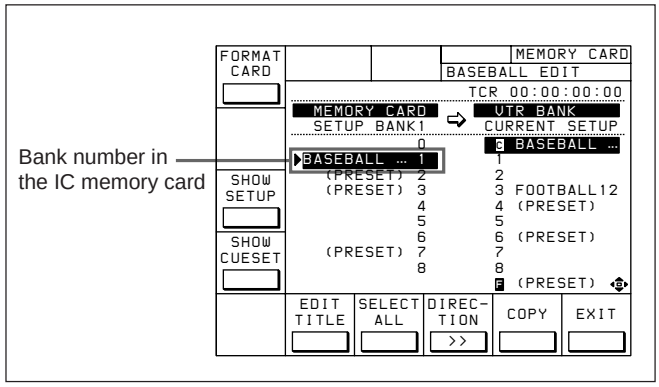
1 Press the SET UP button.
The SET UP menu appears in the display.

2 Press the F2 (MEMORY CARD) button.
The MEMORY CARD menu appears in the display.
You can access MEMORY CARD menu directly by pressing the ACCESS button.



3 Press the F8 (DIRECTION) button to select >>.

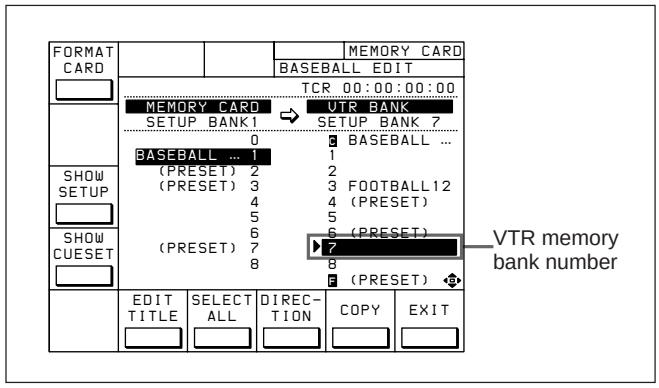
4 Press the ⍓ or ⍒ button to move the cursor (▶) to the number of the memory bank in the IC memory card whose contents are to be recalled.



5 To change the title of the memory bank, press the F6 (EDIT TITLE) button.
You can also change a title after recalling its respective contents from the memory bank.

For details, refer to"4-1-6 Adding Titles to the Data"on page 4-11.

6 Press the ⍈ button to move the cursor (▶) to the VTR side, then press the ⍓ or ⍒ button to move the cursor to the VTR memory bank number where the recalled data are to be stored.



To change the current VTR menu settings
Move the cursor (▶) to C (CURRENT SETUP).

To replace all VTR memory bank contents with IC memory card data
Press the F7 (SELECT ALL) button.

7 Press the F9 (COPY) button.
A message asking you to confirm the operation appears in the display.

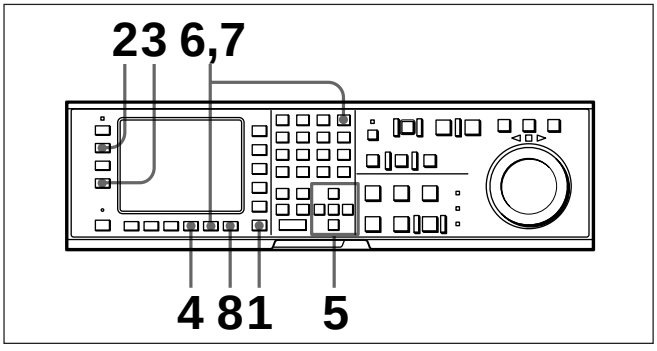
(Continued)

8 Press the F9 (COPY) button while holding down the SFT button.
The VTR recalls the contents of the memory card. After the recalling process is complete, the title of the memory bank of the memory card appears under the VTR indication.

9 Press the F10 (EXIT) button.
The SET UP menu or the menu displayed before you pressed the ACCESS button appears again.

Recalling a cue point list in an IC memory card

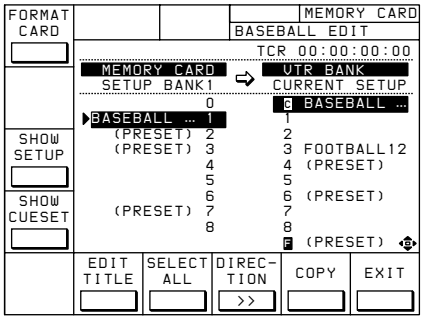
Recalling a cue point list in an IC memory card replaces the current VTR cue point list with the recalled data.



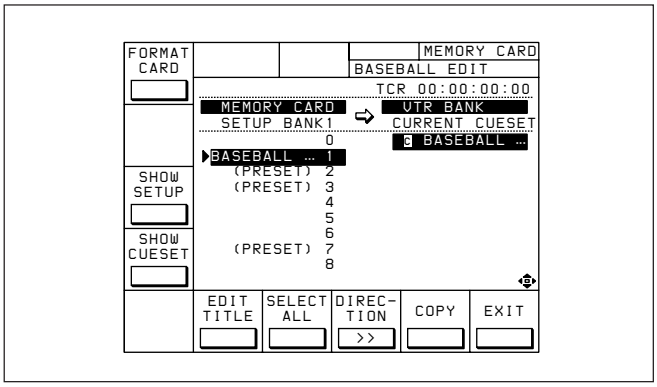
Recalling a cue point list in an IC memory card

1 Press the SET UP button.
The SET UP menu appears in the display.

2 Press the F2 (MEMORY CARD) button.
The MEMORY CARD menu appears in the display.
You can access MEMORY CARD menu directly by pressing the ACCESS button.



3 Press the F4 (SHOW CUESET) button.
The menu for storing cue point lists appears.

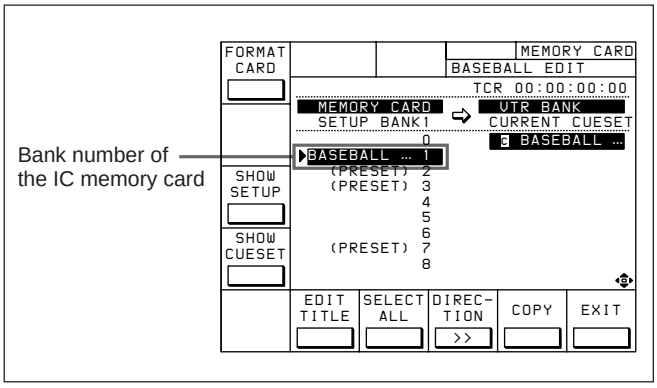


To return to the SET UP menu

Press the F3 (SHOW SETUP) button again.

4 Press the F8 (DIRECTION) button to select >>.

5 Press the ⍓ or ⍗ button to move the cursor (▶) to the number of the memory bank in the IC memory card.



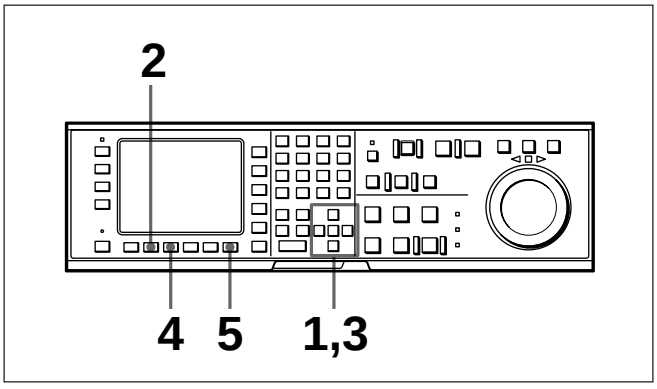
6 Press the F9 (COPY) button.
A message asking you to confirm the operation appears in the display.

7 Press the F9 (COPY) button while holding down the SFT button.
The VTR recalls the cue point list in the IC memory card.
After the recalling process is completed, the name of the cue point list appears under the CURRENT CUESET indication.

8 Press the F10 (EXIT) button.
The SET UP menu or the menu displayed before you pressed the ACCESS button appears again.

4-1-6 Adding Titles to the Data

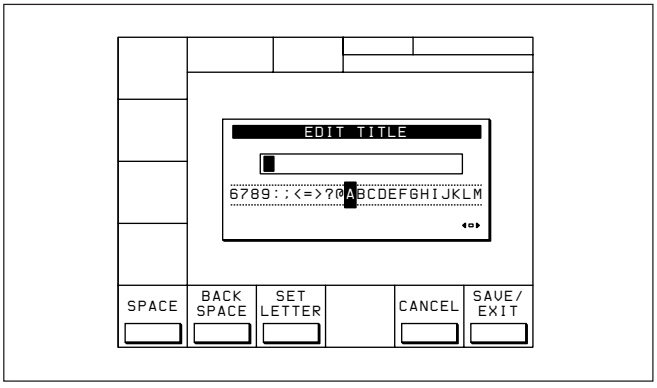
When storing data to a memory bank in an IC memory card or the VTR, you can add a title to the data to make data management easier.



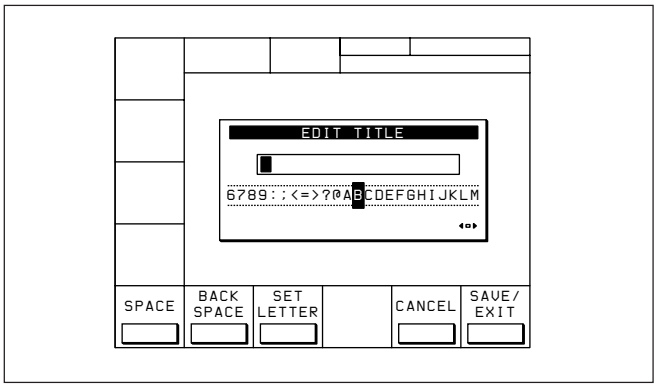
Adding titles to the data

1 Move the cursor (▶) to CURRENT SETUP C or the number of the memory bank in the IC memory card.

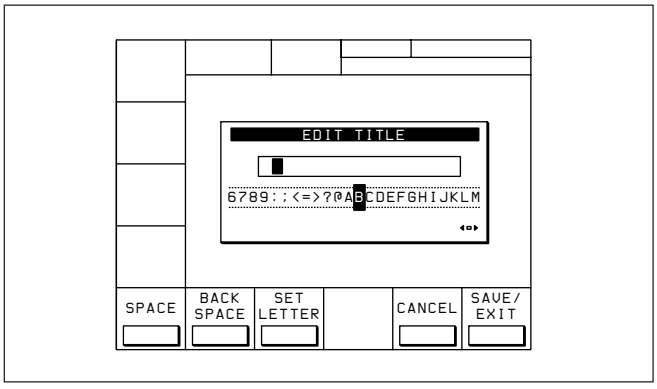
2 Press the F6 (EDIT TITLE) button to display the EDIT TITLE widnow.



3 Press the ⊴ or ⊵ button to select a letter.



4 Press the F7 (SET LETTER) button .
The selected letter is entered.



5 Repeat Steps **3** and **4** to enter more characters.

To enter a space
Press the F5 (SPACE) button.

If you enter a wrong character
Press the F6 (BACK SPACE) to go back, then reenter a character.

To cancel the procedure to start again
Press F9 (CANCEL) button, then reenter a character.

6 Press the F10 (SAVE/EXIT) button.
The entered title is set and the menu displayed before you pressed the EDIT TITLE button appears again.

4-1-7 Details on VTR Memory Bank and IC Memory Card Functions

Most setting of most items can be stored to a VTR memory bank or an IC memory card, with the exception of the settings described below:

Data that can be stored to/recalled from a VTR memory bank or IC memory card

- Settings of items in the VTR SETUP menu (with the exceptions listed below)
- Contents of the PF1/2 menus
- VTR memory bank titles

Data that cannot be stored to a VTR memory bank or an IC memory card

Settings of the following items in the VTR SETUP menu are not stored to memory:

- 603. ID CODE
- Items related to the hours meter (H01 to H14)

Current settings are always maintained for these items.

4-1-8 IC Memory Card Data Compatibility Among the DVW-A500/1 and DVW-500/1 Series VTRs

IC memory card data recorded on one DVW-A500/1 series or 500/1 series VTR (VTR A) can be read into the VTR memory banks of another DVW-A500/1 series or DVW-500/1 series VTR (VTR B) and equipped with the BKDW-515. If both VTRs are identical in model and optional accessories, the entire IC memory card contents are read and applied as is. If the VTRs differ either in model or optional accessories, the following will occur:

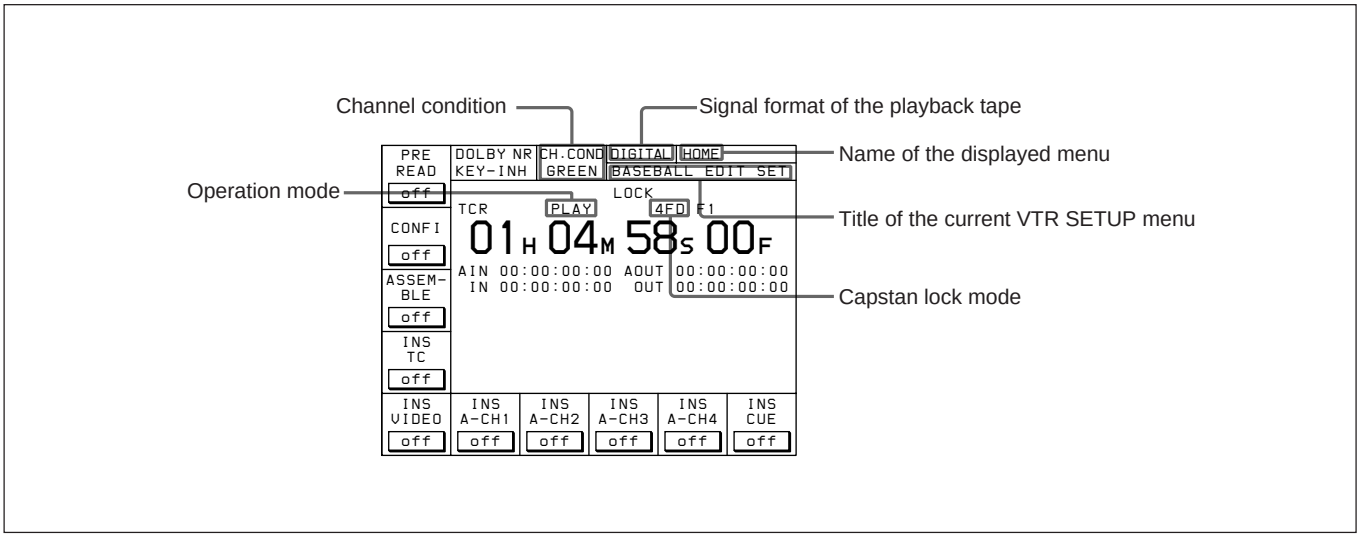
- Settings for those items that are common to both VTR A and VTR B are read (i.e, items that are common to most VTRs and unaffected by series or configuration differences).
- Settings that exist on VTR B but not on VTR A remain unchanged.
  For example, if VTR A is a DVW-500/1 and VTR B is a DVW-A500/1, the analog Betacam playback settings on VTR B are not changed by data input from the IC memory card.
- Settings for items that exist only on VTR A are not read.
- Settings for items that exist only on VTR A and have been assigned to the PF1/2 menus are not read, and the respective function buttons do not appear in menu display on the BKDW-515 attached to VTR B.

4-2 HOME Menu

The HOME menu sets the basic VTR operation conditions for recording, playback, and editing. The HOME, TC, PF1 and PF2 menus show information that includes the VTR operation mode, time code of the current position, and time code type, etc.

To activate the HOME menu
Press the HOME button.

To change the HOME menu page
Press the ALT button.



HOME menu display

For details on time codes, refer to "4-3 TC Menu" on page 4-18.

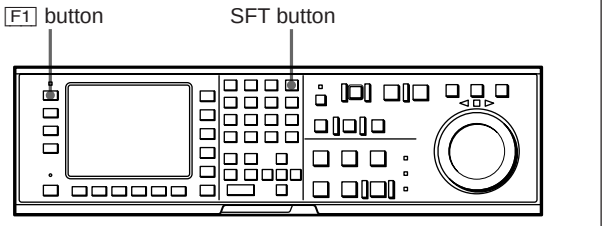
HOME menu

Button	Indication	Function	Settings
F1	PRE READ	Selects the PRE READ function setting.	off, [video, audio, a/v]
F2	CONFI	Selects the simultaneous playback setting.	on, off
F3	ASSEMBLE	Selects the edit mode and edit channel.	on, off
F4	INS TC		
F5	INS VIDEO		
F6	INS A-CH1		
F7	INS A-CH2		
F8	INS A-CH3		
F9	INS A-CH4		
F10	INS CUE		
ALT/F1	REC INH	Selects the REC INH (record inhibit) mode.	off, [all, crash, video, audio]
ALT/F2	PB/EE	Selects the monitor mode.	PB/EE, PB
ALT/F3	FREEZE	Selects the still-picture function setting.	on, off
ALT/F5	CAP LOCK	Selects CAP LOCK (capstan servo lock) mode.	2FD, 4FD, 8FD (DVW-A500P/1 and 500P/1 only)
ALT/F6	P-ROLL TIME	Sets the preroll time.	0 to 30 s
ALT/F7	DMC	Selects DMC playback.	
ALT/F8	P-PLAY	Selects program playback.	
ALT/F10	LAST EDIT	Restores the last edit point set.	

4-2-1 Setting the Preread Function (PRE READ)

To perform prereading during insert edit mode, press the F1 (PRE READ) button while holding down the SFT button.
Each press of the F1 (PRE READ) button selects off, video, audio or a/v. Select video, audio, a/v through 319. PREREAD SELECT in the VTR SETUP menu.

off: The preread function is disabled.
video: Video signals are preread.
audio: Audio signals are preread.
a/v: Both video and audio signals are preread.



Setting the preread function

You can use the preread function to perform prepread editing.

For details, refer to "6-2-4 Performing Preread Editing" on page 6-18.

4-2-2 Simultaneous Playback During Recording (CONFI)

To monitor the video and audio signals during recording by simultaneous playback, set the F2 (CONFI) button to on.
The VTR's confidence heads also allow you to play back the section of a tape before and after the edit portion during editing.
The CONFI function is set through 316. CONFIDENCE PB MODE in the VTR SETUP menu.

4-2-3 Selecting the Edit Mode and Edit Channel (ASSEMBLE to INS CUE)

Selects assemble or insert edit mode.

Selecting assemble edit mode

After setting the F4 (INS TC) to F10 (INS CUE) buttons to off, set the F3 (ASSEMBLE) button to on.

Selecting the insert edit mode

Set the F3 (ASSEMBLE) button to off and select the required insert channel by pressing the F4 (INS TC) button to F10 (INS CUE) button.

Selecting the insert channel

F4 (INS TC) button: Time Code
F5 (INS VIDEO) button: Video signal
F6 (INS A-CH1) button: Digital audio signal (channel 1)
F7 (INS A-CH2) button: Digital audio signal (channel 2)
F8 (INS A-CH3) button: Digital audio signal (channel 3)
F9 (INS A-CH4) button: Digital audio signal (channel 4)
F10 (INS CUE) button: Analog cue channel

For details on editing procedures, refer to "Chapter 6 Editing" on page 6-1.

4-2-4 Setting Record Inhibit Mode (REC INH)

Press the ALT button, then the F1 (REC INH) button to set the record inhibit mode of the VTR.
Each press of the F1 (REC INH) button selects off, all, crash, video, or audio.
Select all, crash, video, or audio through 310. REC INHIBIT in the VTR SETUP menu.

off: Recording is enabled (the REC INHIBIT indicator is off).

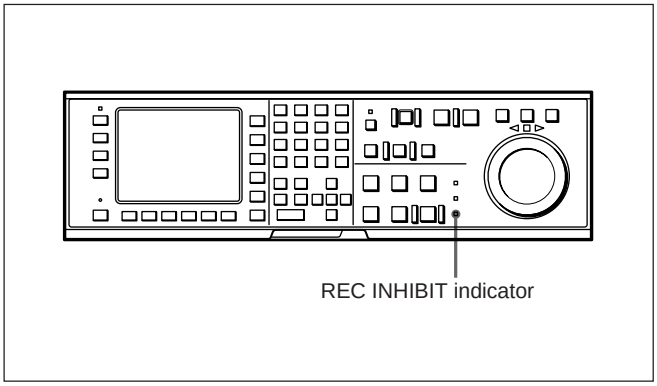
all: Recording is disabled (the REC INHIBIT indicator lights up).

crash: Normal recording is disabled (the REC INHIBIT indicator lights up), but recording in assemble or insert edit mode is possible.

video Recording of video and CTL signals is disabled.

audio: Recording of audio and CTL signals is disabled.

If you attempt to an operation that is prohibited by the record inhibit mode, the REC INHIBIT indicator flashes as a warning.



Setting record inhibit mode (REC INH)

4-2-5 Selecting the Monitor Mode (PB/EE)

Press the ALT button, then the F2 (PB/EE) button to select the video/audio signals to be output in fast-forward, rewind, stop, or standby mode.

PB/EE: Outputs input signals.

PB: Always outputs PB signals.

Note

Either setting can be specified during analog Betacam playback on the DVW-A500/1 series; in actual operation, however, only PB (playback) signals are output.

4-2-6 Outputting Still-Pictures (FREEZE)

To output a still-picture, select on (manual still) by pressing the ALT button, then press the F3 (FREEZE) button.
A still-picture shows the video data being played back right before the pressing of the button. Make the field or frame selection through 903. FREEZE MODE in the VTR SETUP menu.

To maintain the still-picture

Set 904. FREEZE CONTROL FROM KEY PANEL in the VTR SETUP menu to latch.
A still-picture output is maintained until you select off by pressing the F3 (FREEZE) button.

To temporarily output a still-picture

Set 904. FREEZE CONTROL FROM KEY PANEL in the VTR SETUP menu to momentary. A still-picture is output as long as you hold down the F3 (FREEZE) button.

Auto-freeze function

To automatically output a still-picture when channel conditions have deteriorated during the playback, set 905. AUTO FREEZE CONTROL in the VTR SETUP menu to MODE1 or MODE2.

dis: The auto-freeze function is disabled.

MODE1: The auto-freeze function is enabled, but is automatically cancelled when channel conditions have recovered enough for normal playback.

MODE2: The auto-freeze function is enabled, but is automatically cancelled when you stop playback with the STOP button, then start playback again.

Stop-freeze function

To automatically output a still-picture when the VTR is changed to stop mode, set 906. STOP FREEZE CONTROL in the VTR SETUP menu to enable.

4-2-7 Selecting the Capstan Servo Lock Mode (CAP LOCK)

Press the ALT button, then the F5 (CAP LOCK) button to select the capstan servo lock mode when you edit or play a tape with decoded component signals (i.e., a tape with composite input data recorded on a Digital Betacam VTR or Betacam/Betacam SP VTR).

DVW-A500/1 and 500/1 only

2FD: The capstan servo is locked every 2 fields. Since color framing is disabled, phase shifting (H-shifting) of output video signals does not occur during playback. This is the normal setting for editing or playback of component signals.
To enhance the frequency characteristics, H-shifting of the video output on the basis of the decoding information on the tape may also be performed by setting 712. VIDEO PROCESS ON CAP LOCK 2 FIELD in the VTR SETUP menu.

4FD: The capstan servo is locked to the color frame every 4 fields. The VTR maintains the phase of the video output signals even after repeated stopping and restarting of playback.
Use this setting if you require continuity in video phase at edit points during editing or playback of composite signals, or when you perform AB rolling.

DVW-A500P/1 and 500P/1 only

2FD: The capstan servo is locked every 2 fields. Since color framing is disabled, phase shifting (H-shifting) of output video signals does not occur during playback. This is the normal setting for editing or playback of component signals.
To enhance the frequency characteristics, H-shifting of the video output on the basis of the decoding information on the tape may also be performed by setting 712. VIDEO PROCESS ON CAP LOCK 2 FIELD in the VTR SETUP menu.

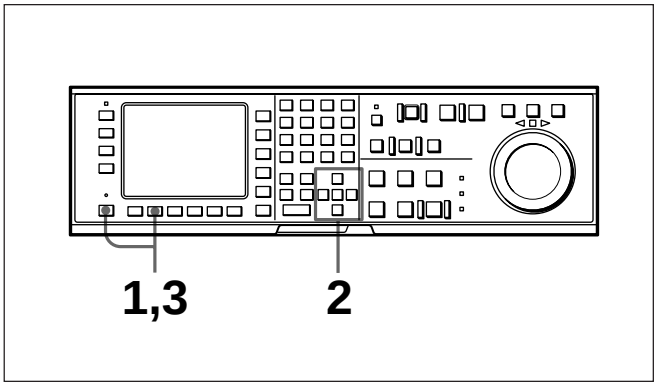
4FD: The capstan servo is locked every 4 fields. This is the normal setting for editing of component signals with quick servo lock.
To enhance the frequency characteristics, H-shifting of the video output on the basis of the decoding information on the tape may also be performed by setting 712. VIDEO PROCESS ON CAP LOCK 2 FIELD in the VTR SETUP menu.

8FD: The capstan servo is locked to the color frame every 8 fields. The VTR maintains the phase of the video output signals even after repeated stopping and restarting of playback.
Use this setting if you require continuity in video phase at edit points during editing or playback of composite signals, or when you perform AB rolling.

4-2-8 Setting the Preroll Time (P-ROLL TIME)

Set the preroll time by pressing the ALT button, then press the F6 (P-ROLL TIME) button.
You can set a preroll time of 0 to 30 seconds in 1-second units. During editing on this VTR, a preroll time of 5 seconds or more is recommended.

Setting the preroll time



Setting the preroll time

1 Press the ALT button, then the F6 (P-ROLL TIME) button.
A data entry window appears.

2 Change the setting with the ⍓ or ⍒ button.
You may also use the + or – button.

3 Press the F6 (P-ROLL TIME) button.
The data entry window disappears.

4-2-9 Selecting DMC Playback (DMC)

In DMC (Dynamic Motion Control) playback mode, the VTR plays back a tape segment at a specified variable speed of –1 to +3 times normal playback speed, memorizes the speed, then plays the segment back at a later time at the memorized speed.
DMC playback is useful during on-the-spot telecasts of sporting events for immediate playback and broadcast of highlight scenes for which starting and ending points have been set during recording.

For detail on the procedure for DMC playback, refer to "5-4-4 DMC Playback" on page 5-10.

During tape editing using two DVW-A500/1 series or 500/1 series VTRs, you can use DMC playback to control the playback speed of the player VTR for editing at variable speeds (DMC editing).

For details on DMC editing, refer to "6-2-1 Performing DMC Editing" on page 6-14.

Selecting DMC playback

Set 111. PROGRAM PLAY in the VTR SETUP Menu to disable.
The ALT/F8 (P-PLAY) button in the display disappears (only one of either playing modes can be specified at any time).

4-2-10 Selecting Program Playback (P-PLAY)

In program playback mode, you can play a tape at a previously specified speed.

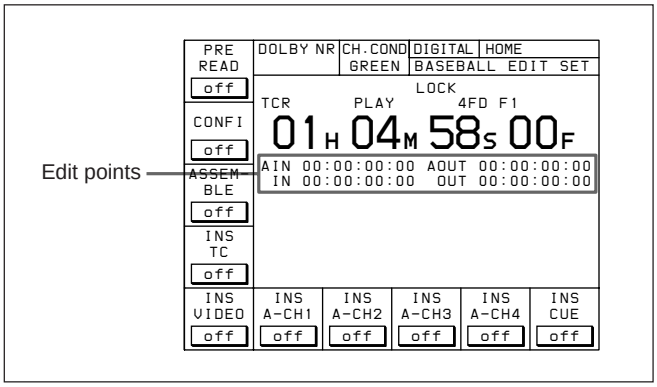
For details on program playback, refer to "5-4-5 Program Playback" on page 5-13.

Selecting program playback

Set 111. PROGRAM PLAY in the VTR SETUP menu to enable.
A data entry window appears, and the ALT/F7 (DMC) button in the display disappears (only one of either playing modes can be specified at any time).

4-2-11 Recalling Edit Points (LAST EDIT)

While editing, you can recall the last edit points by pressing the ALT button, then the F10 (LAST EDIT) button.
The edit points appear in the display.



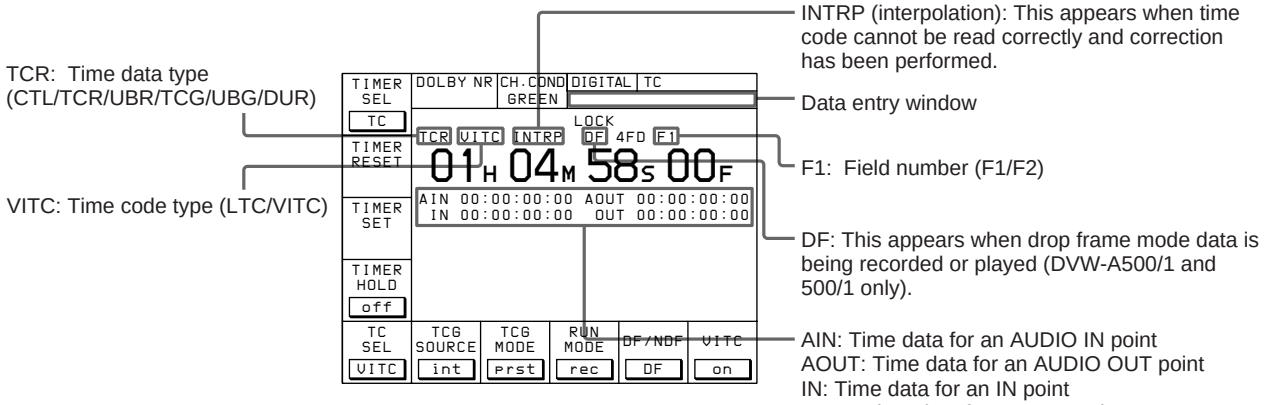
Recalling edit points (LAST EDIT)

4-3 TC Menu

The TC menu allows you to set time code-related items through a single menu.
The HOME, TC, PF1 and PF2 menus show information that includes the VTR operation mode, time code of the current position, and the time code type, etc.

To activate the TC menu
Press the TC button.

To change the TC menu page
Press the ALT button.



Information shown in the HOME, TC, PF1 and PF2 menus

For details on operation modes, refer to "4-2 HOME Menu" on page 4-13.

TC menu

Button	Indication	Function	Settings
F1	TIMER SEL	Selects time data type.	CTL, TC, UBIT
F2	TIMER RESET	Resets the time counter.	
F3	TIMER SET	Sets the time data.	
F4	TIMER HOLD	Holds the time counter.	on, off
F5	TC SEL	Sets the time code reader.	VITC, AUTO, LTC
F6	TCG SOURCE	Selects the internal/external time code generator.	int, ext
F7	TCG MODE	Sets the time code generator.	regen, prst
F8	RUN MODE	Selects the running mode of the time code.	free, rec
F9	DF/NDF (DVW-A500/1 and 500/1 only)	Selects drop frame mode.	DF, NDF
F10	VITC	Specifies recording of VITC.	on, off
ALT/F1	TAPE TIMER	Selects the CTL display mode.	+/–12H, 24H
ALT/F2	ID PRESET	Specifies ID preset.	on, off
ALT/F6	CHARA SUPER	Specifies superimposition of character information.	on, off
ALT/F7	CHARA H-POS	Changes the superimposition position (horizontal).	0 to 24 (DVW-A500/1 and 500/1) 0 to 22 (DVW-A500P/1 and 500P/1)
ALT/F8	CHARA V-POS	Changes the superimposition position (vertical).	0 to 6A (DVW-A500/1 and 500/1) 0 to 81 (DVW-A500P/1 and 500P/1)
ALT/F9	VITC POS-1	Specifies the VITC insertion line.	12 to 20 (DVW-A500/1 and 500/1) (9 to 22 (DVW-A500P/1 and 500P/1)
ALT/F10	VITC POS-2		12 to 20 (DVW-A500/1 and 500/1) (9 to 22 (DVW-A500P/1 and 500P/1)

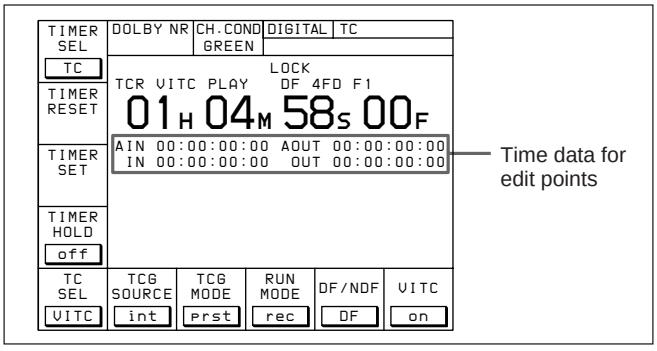
4-3-1 Setting the Time Data (TIMER SEL/RESET/SET/HOLD)

The display shows the following types of time data:

Indication	Time data type
TCR LTC	The LTC[1)] value read by the time code reader during playback.
TCR VITC	The VITC[1)] value read by the time code reader during playback.
TCG	The value generated by the time code generator during recording.
CTL	The number of CTL signals[2)] on the tape during recording/playing.
UBR LTC	The user bits[3)] value read by the time code reader (LTC) during playback.
UBR VITC	The user bits value read by the time code reader (VITC) during playback.
UBG	The user bits value generated by the time code generator during recording.
DUR	Appears whenever a duration between any two edit points (IN, OUT, AUDIO IN or AUDIO OUT points) is displayed.

Time data for IN, OUT, AUDIO IN and AUDIO OUT points are also displayed.

Indication	Time data type
IN	Time data for an IN point.
OUT	Time data for an OUT point.
AUDIO IN	Time data for an AUDIO IN point.
AUDIO OUT	Time data for an AUDIO OUT point.



Selecting the time data display

Press the F1 (TIMER SEL) button repeatedly to select the desired time data display.

CTL: Counts the CTL signals on the playback tape or the CTL signals being recorded on the tape, and displays the tape running time in hours, minutes, seconds, and frames.

TC: Displays the value read by the time code reader or the value generated by the time code generator. To switch between VITC and LTC, press the F5 (TC SEL) button.

UBIT: Displays user bits data inserted in time code being played back, or the user bits data inserted in time code being recorded. To switch between VITC and LTC, press the F5 (TC SEL) button.

1) LTC and VITC
LTC cannot be read when the tape speed is very slow or is changed suddenly. VITC, on the other hand, can be read more accurately than LTC when the VTR is stopped or the tape speed is very low. VITC, however, cannot be read when the tape speed is very fast.

2) CTL signals
CTL (control) signals are pulse signals that are recorded horizontally in each frame.

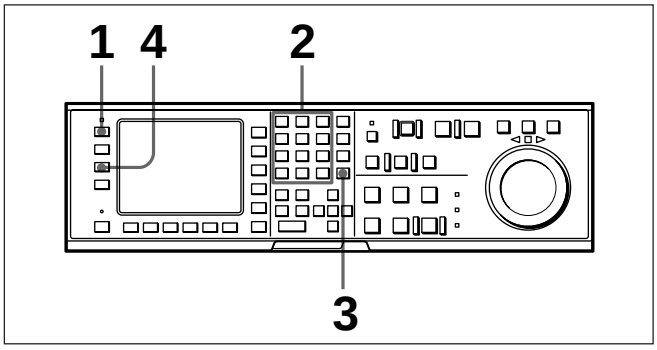
3) User bits
Comprising a part of the time code, user bits record supplementary information and consist of an eight-digit number or hexadecimal A to F.

Setting time code

Before starting the procedure below for setting time data, set the F6 (TCG SOURCE) button to int, the F7 (TCG MODE) button to prst, and the F10 (VITC) button to on. When not recording VITC, set the F10 (VITC) button to off.

Note

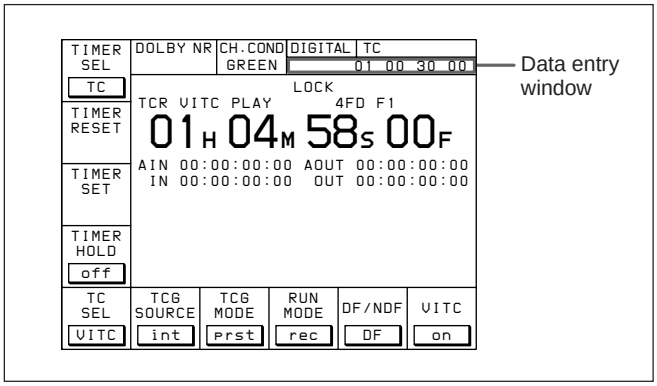
Set the F8 (RUN MODE) button to rec before setting the time data for recording. When you select rec, time data advances from a set value only during recording. When you select free, time code advances from a set value only during recording. When you select free, time code advances in real time after the initial value has been set.



Setting time code

1 Press the F1 (TIMER SEL) button to select the TC (time code) to be set.

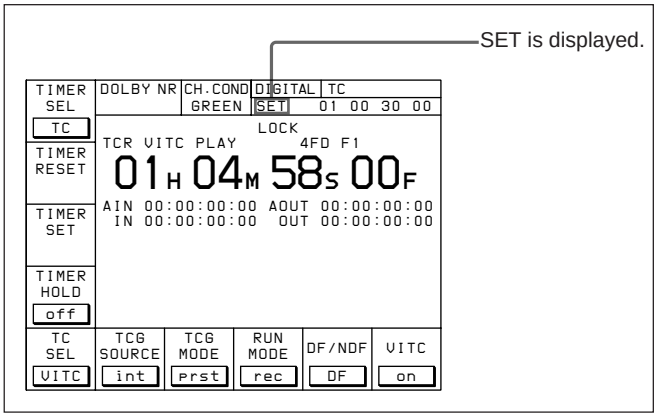
2 Enter the new setting in the data entry window with the numeric buttons.
For example, to enter 01H00M30S00F, press 1, 0, 0, 3, 0, 0, 0. (The leading 0 is not required. When the entered value is less than eight digits, the leading digit(s) is (are) set to 0 when you press the SET button.)



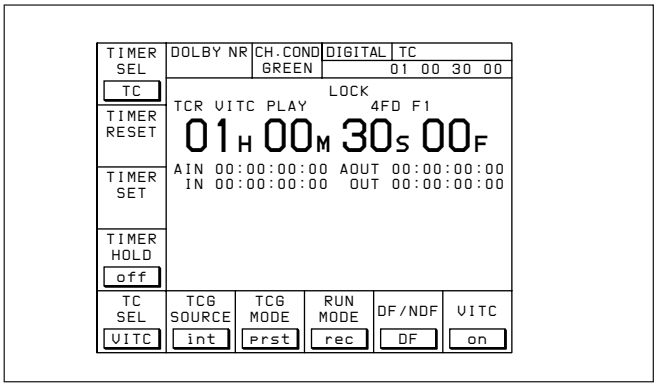
To cancel entered value

Press the CLR button.

3 Press the SET button to set the entered value.
If you pressed the + or – button, then entered a value, the result of calculation appears in the display.



4 Press the F3 (TIMER SET) button.
The input value is set as the time code and appears in the time data display section.



Notes

- Time code from an external time code generator cannot be set.
- Time code cannot be set when the internal time code generator is locked to external time codes or time codes read by the time code reader.

Resetting time data

Press the F2 (TIMER RESET) button.
The internal time code generator is reset according to the setting of the F1 (TIMER SEL) button.

Resetting CTL data

The time data display becomes 00H00M00S00F and all edit points are erased.

Resetting TC or UBIT data

The internal time code generator is reset and the time data display becomes 00H00M00S00F (TC) or 00 00 00 00 (UBIT). Edit points are not affected.

Notes

- Time data read by the time code reader cannot be reset.
- Time data cannot be reset when the internal time code generator is locked to external time codes or time codes read by the time code reader.

Setting the user bit value

1. Press the ALT button, then select off by pressing the F2 (ID PRESET) button.
2. Press the ALT button again, then select UBIT by pressing the F1 (TIMER SEL) button.
3. Enter the desired user bit value in hexadecimal notation using the numeric buttons.
   (Press the 0 to 5 buttons while holding down the SFT button to enter the letters A to F.)
4. Press the F3 (TIMER SET) button.

Recording the current time

1. Select df by pressing the F9 (DF/NDF) button (DVW-A500/1 and 500/1 only).
2. Select free by pressing the F8 (RUN MODE) button.
3. Enter the target time with the numeric buttons while verifying the data in the data entry window.
4. When the target time arrives, press the F3 (TIMER SET) button.
   The time code generator starts operating from the specified time.

4-3-2 Setting the Time Code Reader (TC SEL)

Press the F5 (TC SEL) button to select the time code to be read by the time code reader during playback.

VITC: Reads VITC.

AUTO: Reads VITC when the playback speed is +/–1/2 times normal speed or less, and LTC when it is greater than +/–1/2 times normal speed.

LTC: Reads LTC.

Depending on the time code recorded on a tape, VITC or LTC appears on the display.
Time codes that are read by the time code reader or played back are output from the TIME CODE OUT connector.

4-3-3 Setting the Time Code Generator (TCG SOURCE/MODE)

There are two ways to record time codes on the VTR. One way is to record the output of the VTR's internal time code generator. The other is to directly record time codes that are input from an external time code generator.
The output from the internal time code generator can either be set to a specified initial value, or synchronized with an external time code generator.

Selecting the time code generator

Press the F6 (TCG SOURCE) button repeatedly to select the time code generator.

int: Selects the time code generated by the internal time code generator.

ext: Selects an external time code input to the TIME CODE IN connector, or synchronizes the internal time code generator to an external time code generator.

Synchronizing the internal time code generator to an external time code

Make these settings to synchronize the internal time code generators of multiple VTRs, or to record the playback time code signal of an external VTR without waveform attenuation.

1 **To synchronize the internal time code generator to external LTC**
Connect the TIME CODE IN connector to an external time code generator or the time code output connector of an external VTR.

To synchronize the internal time code generator to VITC of the input video signals
Select the input video signals by pressing the F1 (VIDEO IN) button in the PF1 menu.

2 Set the following function buttons as shown below:
F6 (TCG SOURCE) button: To ext.
F7 (TCG MODE) button: To regen (regenerate).
F10 (VITC) button: To on when recording VITC.
F5 (TC SEL) button: To LTC when synchronizing to LTC. Set to VITC when synchronizing to VITC.

When the settings have been completed, the internal time code generator starts operating in synchronization with the external time code generator.

The following table shows the conditions specified by the various settings of the F6 (TCG SOURCE) and F7 (TCG MODE) buttons.

F6 (TCG SOURCE) button	F7 (TCG MODE) button	Settings
ext	prst	Directly records an external time code.
ext	regen	Records the time code of the internal time code generator in synchronization with an external time code.
int	prst	Records the time codes of the internal time code generator from a set value.

To check the running of the internal time code generator
Press the STOP button to stop the VTR, then press the REC button.

4-3-4 Selecting the Time Code Running Mode (RUN MODE)

Press the F8 (RUN MODE) button to select the time code running mode.
free: The time code advances when the power is on regardless of the VTR's operation mode.
rec: The time code advances only during recording.

4-3-5 Selecting the Drop Frame Mode (DF/NDF) (DVW-A500/1 and 500/1 only)

Press the F9 (DF/NDF) button to select the running mode for the CTL counter and the time code generator.
DF: Drop frame mode[1] (DF is displayed.)
NDF: Non-drop frame mode[2] (NDF is displayed.)

Note
When the F7 (TCG MODE) button is set to regen, the drop frame mode is inoperative since the time code generator is synchronized to the playback time code.

1) **Drop frame mode**
In order to compensate for differences between time code values from the time code generator and the actual time, the drop frame mode causes the time code generator to omit the first two frames (frame 00 and 01) in each minute except the tenth.

2) **Non-drop frame mode**
A mode of advancing the time code in such a way that the difference in frame values between real time and the time code is neglected. Using this mode produces a difference of approximately 86 seconds per day between real time and the time code.

4-3-6 Recording VITC (VITC)

Press the F10 (VITC) button to specify the recording of VITC.

on: Records VITC generated by the internal time code generator.

off: Does not record VITC. However, records VITC inserted in the video input signal.

For details on the VITC insertion line, refer to "4-3-10 Setting the VITC Insertion Line (VITC POS-1/POS-2)" on page 4-26.

4-3-7 Selecting CTL Display Mode (TAPE TIMER)

Press the ALT button, then the F1 (TAPE TIMER) button to select a 12-hour or 24-hour clock for the CTL display.

+/–12H: 12-hour clock

24H: 24-hour clock

4-3-8 ID Preset (ID PRESET)

The presetting of the ID code in non-volatile memory as user bits data allows you to recall and record it during later recording sessions.

Press the ALT button, then the F2 (ID PRESET) button to select the ID code recording mode.

on: Records the preset ID code as user bits data.

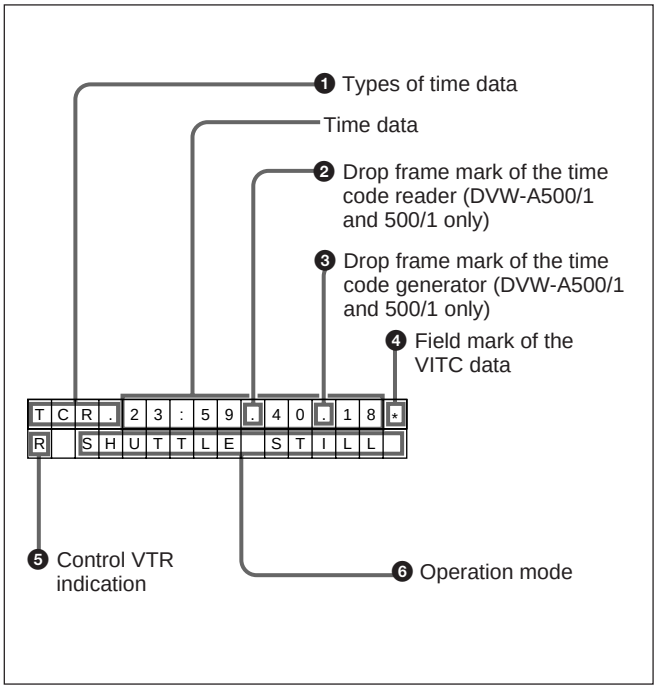
off: Records the user bits set through the control panel.

To preset ID code, reset 603. ID CODE PRESET in the VTR SETUP menu.

4-3-9 Superimposition of Character Information (CHARA SUPER/H-POS/V-POS)

When you select on by pressing the ALT button and then the F6 (CHARA SUPER) button, time data and operation mode are indicated as character data superimposed onto the signals output from the SERIAL V/A OUTPUT 4(SUPER) and VIDEO OUTPUT COMPOSITE 3(SUPER) connectors.

Contents of superimposed data


1 Types of time data
Time data
2 Drop frame mark of the time code reader (DVW-A500/1 and 500/1 only)
3 Drop frame mark of the time code generator (DVW-A500/1 and 500/1 only)
4 Field mark of the VITC data
TCR. 23:59.40.18*
R SHUTTLE STILL
5 Control VTR indication
6 Operation mode

Contents of superimposed data

Note

The example above shows the factory-set contents of data.

You can display different time data on the second line by changing the setting of 005. DISPLAY INFORMATION SELECT in the VTR SETUP menu.

❶Types of time data

Indication	Time data
CTL	CTL counter data
TCR	Time data of the LTC reader
UBR	User bits data of the LTC reader
TCR.	The time data of the VITC reader
UBR.	User bits data of the VITC reader
TCG.	Time data of the time code generator
UBG	User bits data of the time code generator
IN	IN point or starting point of the DMC memory
OUT	OUT point or the ending point of the DMC memory
AI	AUDIO IN point
AO	AUDIO OUT point
DUR	Duration between two points edit (IN, OUT, AUDIO IN, or AUDIO OUT) points

Note

When a time data or user bits reading error has occurred, an asterisk ("*") is displayed where the error has occurred. For example, "T*R", "U*R", "T*R.", or "U*R.".

❷ Drop frame mark of the time code reader (DVW-A500/1 and 500/1 only)

"•": Drop frame mode (factory-setting)
":": Non-drop frame mode

❸ Drop frame mark of the time code generator (DVW-A500/1 and 500/1 only)

"•": Drop frame mode (factory-setting)
":": Non-drop frame mode

❹ Field mark of the VITC data

" " (blank): Fields 1 and 3 are displayed.
"*": Fields 2 and 4 are displayed.

❺ Control VTR indication

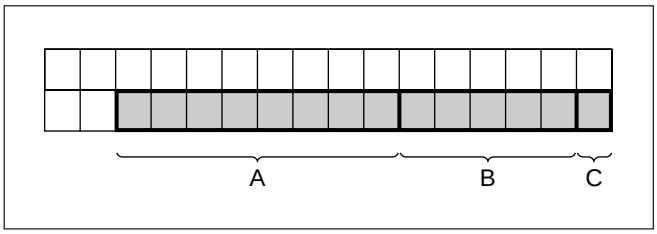
When editing using two VTRs, this indication tells you which VTR is being controlled by the control panel. This indication does not appear when two VTRs are not being used.

R: The VTR control panel controls the recorder VTR (the RECORDER button on the control panel lights up).
P: The VTR control panel controls the player VTR (the PLAYER button on the control panel lights up).

❻ Operation mode

This display is divided into three blocks (A, B, and C), as shown in the following figure.

Block A: Operation mode
Block B: Servo lock condition or tape speed
Block C: Edit segment during automatic editing, or a ■ mark indicating tape speed memorization for recording/playback in DMC mode



Operation mode

Operation mode display configuration

Indication		Operation mode
Block A	**Block B**	
TAPE UNTHREAD		No cassette is loaded.
STANDBY OFF		Standby off mode
T.RELEASE		Tension release mode
STOP		Stop mode
F.FWD		Fast-forward mode
REW		Rewind mode
PAUSE		Pause mode
PREROLL		Preroll mode
PLAY		Playback mode (servo unlock)
PLAY	LOCK	Playback mode (servo lock)
PLAY	Deviation (%) from normal playback speed	Capstan override mode or program play mode
REC		Recording mode (servo unlock)
REC	LOCK	Recording mode (servo lock)
EDIT		Edit mode (servo unlock)
EDIT	LOCK	Edit mode (servo lock)
JOG	STILL	Still-picture in jog mode
JOG	FWD	Jog in normal direction (▶ indicator lights up.)
JOG	REV	Jog in reverse direction (◀ indicator lights up.)
SHUTTLE	(speed)	Shuttle mode
VAR	(speed)	Variable mode
DMC	(speed[a)])	DMC playback mode
D-PREV	(speed[a)])	Preview mode during DMC editing
D-EDIT	(speed[a)])	DMC edit mode
DMC-SPD	(speed)	During initial speed setting in DMC mode
PLY-SPD	Deviation (%) from normal playback speed	Tape speed setting for program play
PREVIEW		Preview mode
AUTO EDIT		Automatic edit mode
REVIEW		Review mode

a) Initial speed or memorized speed

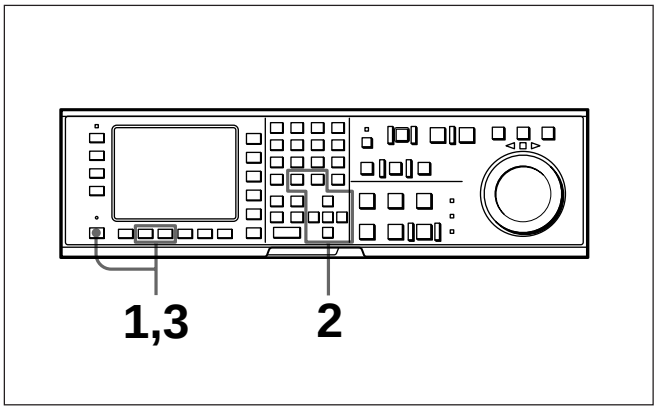
Changing the superimposition position

DVW-A500/1 and 500/1 only

The superimposition position can be moved up to 37 increments (hexadecimal 00 to 24) in the horizontal direction and up to 106 increments (hexadecimal 00 to 6A) in the vertical direction.

DVW-A500P/1 and 500P/1 only

The superimposition position can be moved up to 35 increments (hexadecimal 00 to 22) in the horizontal direction and up to 129 increments (hexadecimal 00 to 81) in the vertical direction.



Changing the superimposition position

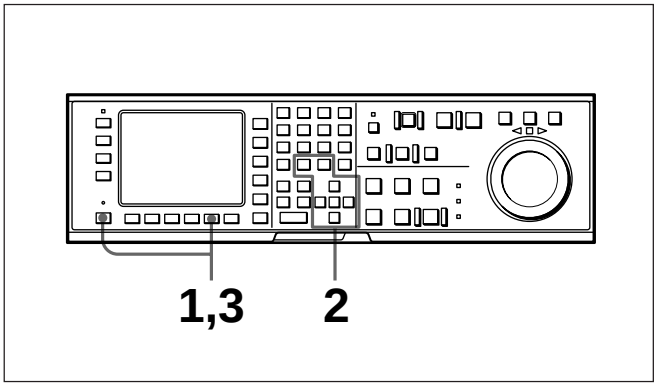
1 Press the ALT button and then the F7 (CHARA H-POS) button to move the superimposition position in the horizontal direction, or the F8 (CHARA V-POS) button to move it in the vertical direction.
A data entry window appears.

2 Press the ⍓ or ⍒ button to change the value.
You can also use the + or – button.

3 Press the F7 (CHARA H-POS) or F8 (CHARA V-POS) button.
The data setting is completed and the data entry window disappears.
Switching to another menu also completes the data setting.

4-3-10 Setting the VITC Insertion Line (VITC POS-1/POS-2)

VITC signals can be inserted at two positions between the 12th line and 20th line (DVW-A500/1 and 500/1) or between the 9th line and 22nd line (DVW-A500P/1 and 500P/1).



Setting the VITC insertion line (VITC POS-1/POS-2)

1 Press the ALT button, then the F9 (VITC POS-1) button.
A data entry window appears.

2 Press the ⍓ or ⍒ button to change the value.
You can also use the +or – button.

3 Press the F9 (VITC POS-1) button.
The data setting is completed and the data entry window disappears.
Switching to another menu also completes the data setting.

To place VITC on another position, repeat the procedure above, pressing the F10 (VITC POS-2) button in Steps **1** and **3** instead of the F9 (VITC POS-1) button.

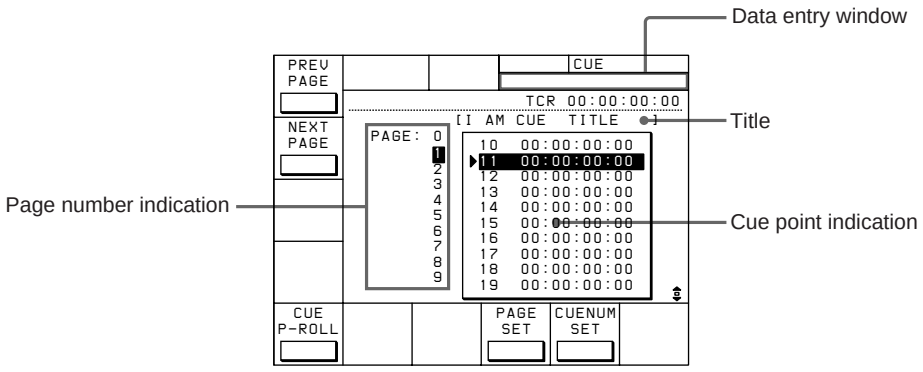
4-4 CUE Menu

The BKDW-515 allows you to register up to 100 cue points (0 to 99), and to manage cue points in groups of 10 (per page).
Cue point settings, deletions, and page settings are done through the CUE menu.

For details on storing cue point data, refer to "4-1-5 IC Memory Card Function" on page 4-6.

To activate the CUE menu

Press the CUE button.



CUE menu display

CUE menu

Button	Indication	Function	Settings
F1	PREV PAGE	Shows the previous page.	
F2	NEXT PAGE	Shows the next page.	
F5	CUE P-ROLL	Specifies the preroll time to a cue point.	0 to 30 s
F8	PAGE SET	Specifies the page number.	
F9	CUENUM SET	Specifies the cue number.	
ALT/F8	PAGE MODE	Selects PAGE mode.	
ALT/F9	EXTEND MODE	Selects EXTEND mode.	

4-4-1 Selecting a Multi-Cue Mode

The BKDW-515 has the following two multi-cue modes.

PAGE mode

Press the ALT button, then the F8 (PAGE MODE) button.
In PAGE mode, cue point data can be accessed by page number, thus speeding up cue point registration and cuing operations.

Display

Cue points are displayed in groups of 10, number 0 to 9, 10 to 19, etc. Each display is a page.

Selecting a page

There are the three following ways to select a page:

- Press the F1 (PREV PAGE) button.
  The previous page is shown.
- Press the F2 (NEXT PAGE) button.
  The next page is shown.
- Enter the desired page number with the numeric button, then press the F8 (PAGE SET) button.
  If you enter 1, for example, page one appears, containing cue point numbers 10 to 19.

EXTEND mode

Press the ALT button, then the F9 (EXTEND MODE) button.
In EXTEND mode, you can do operations that cannot be done in page units, such as the consecutive registration of more than 10 cue points.

Display

The screen displays a list of 100 consecutive cue points which can be scrolled. Press the ⍓ or ⍗ button to scroll the list. Page columns are not displayed.

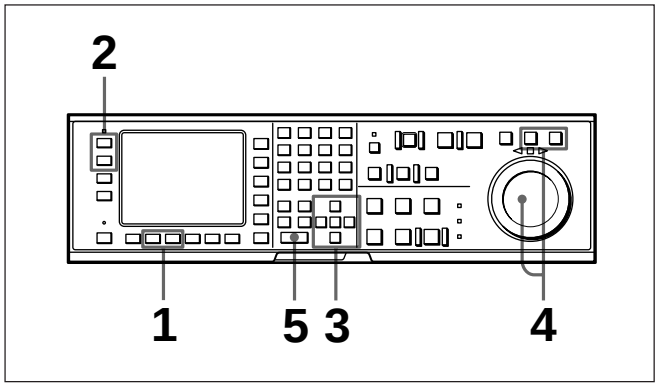
To quickly scroll a list

Press the ⍓ or ⍗ button while holding down the SFT button.

4-4-2 Registering Cue Points

There are two ways to register cue points: (1) by direct registration of the tape address where the ENTRY button is pressed, and (2) by the entry of cue point data with the numeric buttons.

Registering cue points by pressing the ENTRY button

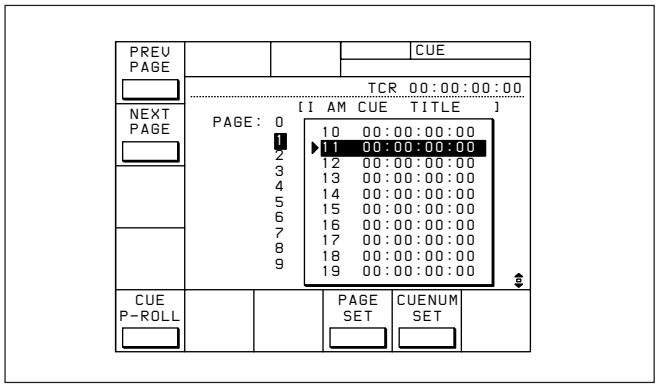


Registering cue points by pressing the ENTRY button

1 Press the ALT button, then the F8 (PAGE MODE) button or the F9 (EXTEND MODE) button.

2 If you selected PAGE mode, press the ALT button, then the F1 (PREV PAGE) button or F2 (NEXT PAGE) button (or use the numeric buttons to enter the page number in the data entry window, then press the ALT button again, then the F8 (PAGE SET) button).

3 Press the ⍓ or ⍗ button to move the cursor (▶) to the cue number to be registered.

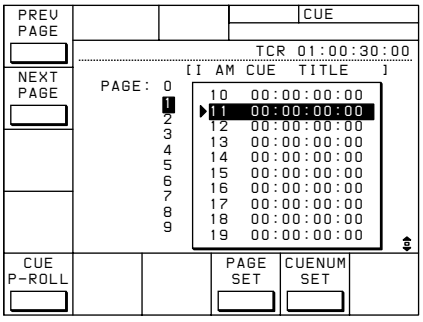


To select the cue number directly by numeric buttons

Enter the cue number in the data entry window with the numeric buttons, then press the F9 (CUENUM SET) button.

4 Press the JOG or VAR button, then rotate the search dial to find the position where you want to register the cue point.

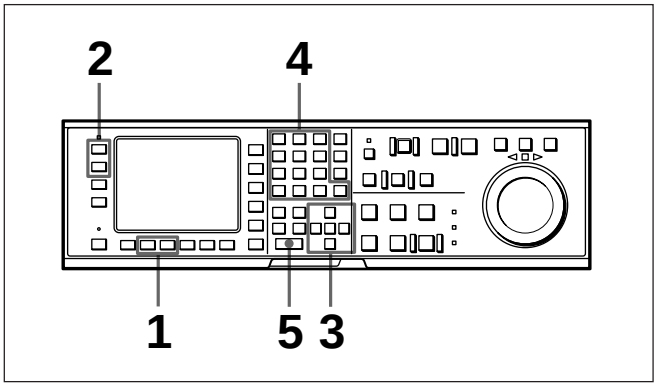
5 Press the ENTRY button at the selected position. The current tape address of the position where the button is pressed is registered as a cue point. Press the ENTRY button repeatedly to register the cue point repeatedly. The cue number will automatically increment by one each time.



Note

In PAGE mode, each time you press the ENTRY button to register a cue point more than once, the cue number automatically increments on the page. For example, after registering cue point No. 19 on page 1, the next cue point is registered to cue point No.10. In EXTEND mode, if you press the ENTRY button after registering, for example, cue point No.99, the next cue point is registered to cue point No.99 again.

Registering cue points by the numeric buttons

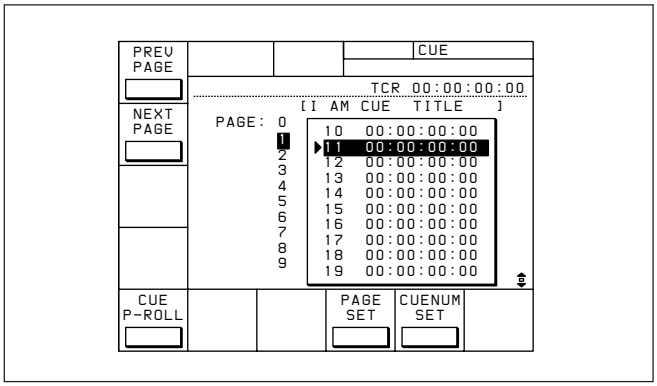


Registering cue points by the numeric buttons

1 Press the ALT button, then the F8 (PAGE MODE) button or the F9 (EXTEND MODE) button.

2 If you selected PAGE mode, press the ALT button, then the F1 (PREV PAGE) button or F2 (NEXT PAGE) button (or use the numeric buttons to enter the page number in the data entry window, then press the F8 (PAGE SET) button).

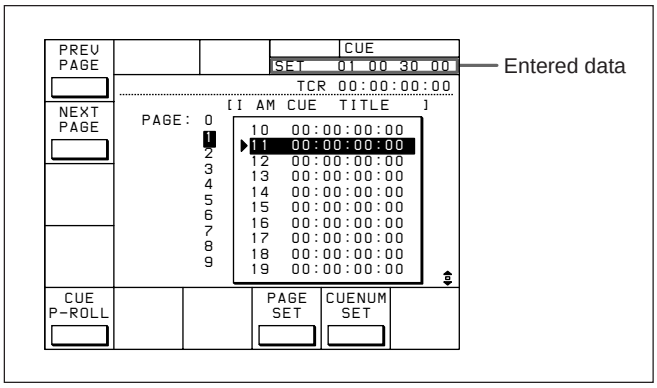
3 Press the ⍓ or ⍒ button to move the cursor (▶) to the cue number to be registered.



To select the cue number directly by the numeric buttons

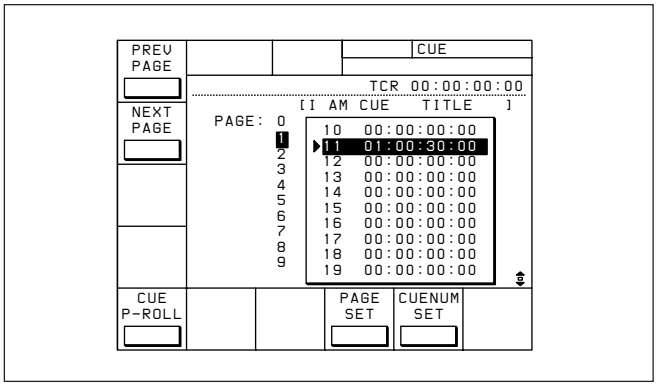
Enter the cue number in the data entry window with the numeric buttons, then press the F9 (CUENUM SET) button.

4 Enter the cue point data in the data entry window with the numeric buttons, then press the SET button.
For example, to enter 01:30:00:00, press 1, 3, 0, 0, 0, 0, 0. (The leading 0 is not required. When the entered value is less than eight digits, the leading digit(s) is (are) set to 0 when you press the SET button.)



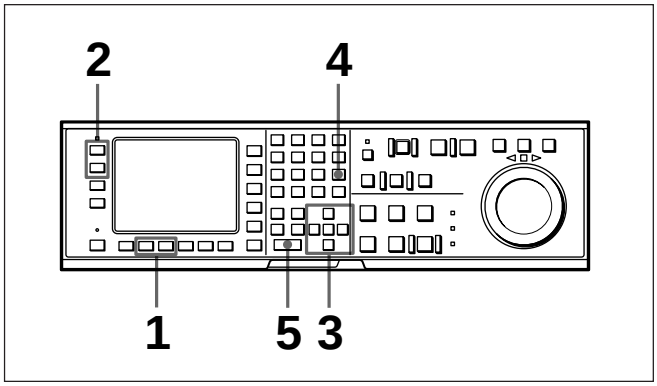
To modify current cue point data
Press the + or – button, enter the value to be added or subtracted, then press the SET button. The computation is performed and the results appear in the data entry window.

5 Press the ENTRY button to set the entered data. The data are registered in the cue point data indication.



4-4-3 Erasing Cue Point Data

To erase any cue point data, blank out the data entry window, then do the cue point registration procedure.

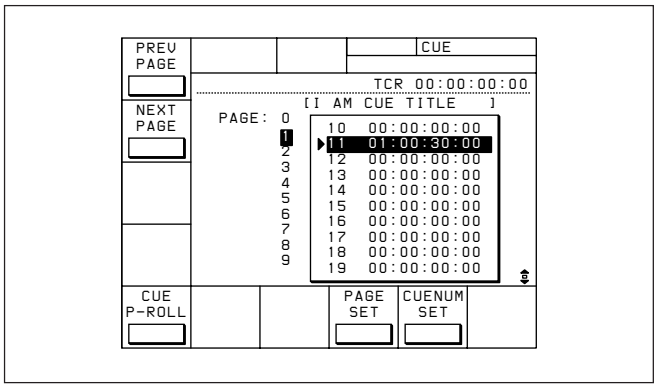


Erasing cue point data

1 Press the ALT button, then the F8 (PAGE MODE) button or the F9 (EXTEND MODE) button.

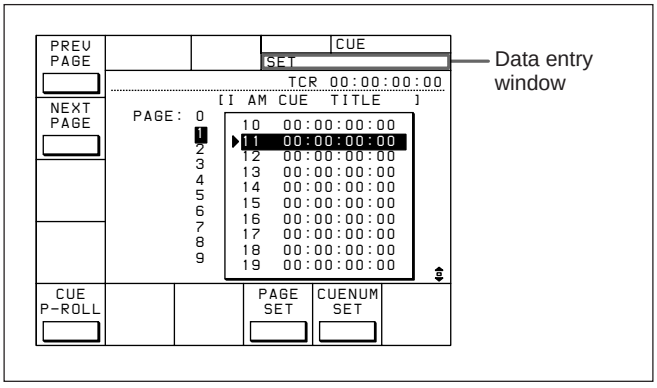
2 If you selected PAGE mode, press the ALT button, then the F1 (PREV PAGE) button or F2 (NEXT PAGE) button (or use the numeric buttons to enter the page number in the data entry window, then press the F8 (PAGE SET) button).

3 Press the ∧ or ∨ button to move the cursor (▶) to the cue number to be erased.

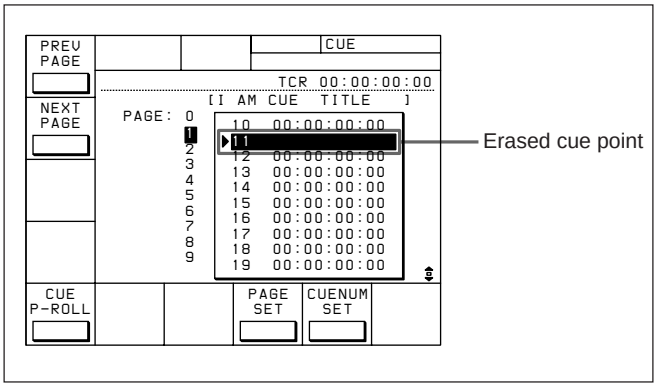


To select the cue number directly by the numeric buttons
Enter the cue number in the data entry window with the numeric buttons, then press the F9 (CUENUM SET) button.

4 Press the CLR button then the SET button.
"SET" appears in a blank data entry window.



5 Press the ENTRY button.
Data for the specified cue number are erased and the data column becomes blank.



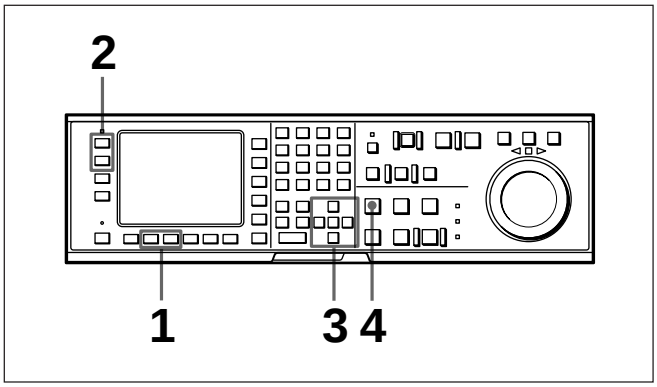
To erase all cue point data

Press the CLR button while holding down the SFT button. A message asking you to confirm the operation appears in the display. In EXTEND mode, press the CLR button while holding down the SFT button again to erase all data for cue points No. 0 to No. 99. In PAGE mode, press the CLR button while holding down the SFT button again to erase data for the cue points on the current page.

4-4-4 Prerolling to a Cue Point

Set the F5 (CUE P-ROLL) button to specify the preroll time to a cue point.
You can set a preroll time of 0 to 30 seconds in 1-second units.

Prerolling to a cue point



Prerolling to a cue point

1 Press the ALT button, then the F8 (PAGE MODE) button or the F9 (EXTEND MODE) button.

2 If you selected PAGE mode, press the ALT button, then the F1 (PREV PAGE) button or F2 (NEXT PAGE) button (or use the numeric buttons to enter the page number in the data entry window, then press the F8 (PAGE SET) button).

3 Press the ⍓ or ⍒ button to move the cursor (▶) to the cue number.

To select the cue number directly by the numeric buttons

Enter the cue number in the data entry window with the numeric buttons, then press the F9 (CUENUM SET) button.

4 Press the PREROLL button.

4-4-5 Changing a Cue Point Into an Edit Point

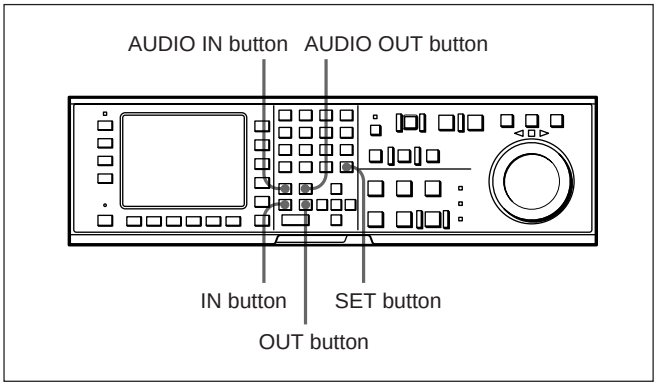
Follow the procedure below to change any cue point into an edit point.

To change an edit point into an IN point
Press the SET button while hoding down the IN button.

To change an edit point into an OUT point
Press the SET button while holding down the OUT button.

To change an edit point into an AUDIO IN point
Press the SET button while holding down the AUDIO IN button.

To change an edit point into an AUDIO OUT point
Press the SET button while holding down the AUDIO OUT button.



4-4-6 Backspace Editing

You can perform backspace editing with the CUE menu. In backspace editing, assemble editing is performed from the recording end point. Since the data specifying recording end point are cleared when you eject the tape, after inserting a tape, you must record for at least one minute or so on the tape before you can do backspace editing. After recording, the present end of the recorded position becomes the recording end point. When you press the AUTO EDIT button afterwards, the VTR automatically prerolls a few seconds before the recording end point and starts assemble editing. If no data for the recording end point exist, backspace editing is not performed.

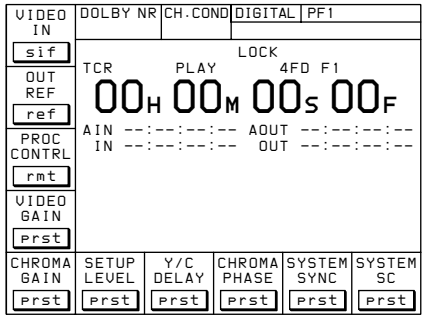
4-5 PF1 Menu (Factory Settings)

The PF (Personal Function) 1 menu is used to register frequently used menu items.
When shipped from the factory, the PF1 menu contains the adjustment menu for video signals. If you later use the PF1 menu to register items from other menus, you can restore the PF1 menu to its original factory settings by recalling SETUP BANK [F] from the VTR memory banks.

For details on registration methods, refer to "4-1-3 Registering Items to the PF1/2 Menus" on page 4-3, and on restoring factory-set menu items, refer to "4-1-4 VTR Memory Bank Function" on page 4-4.

To activate the PF1 menu screen

Press the PF1 button.



PF1 menu display

PF1 menu (factory settings)

Button	Indication	Function	Settings
[F1]	VIDEO IN	Selects the input video signal.	sif, cmpst, y-r/b
[F2]	OUT REF	Selects the reference signal for output.	ref, input
[F3]	PROC CONTRL	Switches the control of the digital video processor.	menu, local, rmt
[F4]	VIDEO GAIN	Adjusts the output level of the video output signal.	prst, 0 to B50H
[F5]	CHROMA GAIN	Adjusts the chroma output level.	prst, 0 to B50H
[F6]	SETUP LEVEL (DVW-A500/1 and 500/1 only)	Adjusts the setup level.	prst, 0 to 220H
	BLACK LEVEL (DVW-A500P/1 and 500P/1 only)	Adjusts the black level.	prst, 0 to 220H
[F7]	Y/C DELAY(DVW-A500/1 series only)	Adjusts the Y/C delay during analog Betacam playback.	prst, 0 to FFFH
[F8]	CHROMA PHASE	Adjusts the chroma phase.	prst, 0 to FFH
[F9]	SYSTEM SYNC	Adjusts the system sync phase.	prst, 0 to FFH
[F10]	SYSTEM SC	Adjusts the system sub-carrier phase.	prst, 0 to 3FFH

4-5-1 Selecting the Input Video Signal (VIDEO IN)

Press the F1 (VIDEO IN) button repeatedly to select the video signal to input.

sif: Serial digital video signal input to the SERIAL V/A INPUT connector

cmpst: Analog composite video signal input to the COMPOSITE VIDEO INPUT connector

y-r/b: Analog component video signal input to the COMPONENT VIDEO INPUT connectors

4-5-2 Selecting the Reference Signal (OUT REF)

Press the F2 (OUT REF) button to select the signal to be used as the reference signal for VTR operations.

ref: The signal input to the REF.VIDEO INPUT connector is used as the reference signal for playback and audio recording. Digital audio and video input signals must synchronize with this reference signal during recording.

input: The video input signal is used as the reference signal for VTR operations. The F1 (VIDEO IN) button switches the video input signal.

4-5-3 Switching the Control of the Digital Video Processor (PROC CONTRL)

Press the F3 (PROC CONTRL) button to select the method for operating the internal digital video processor.

menu: Select this setting when adjusting the settings of the internal digital video processor through the PF1 menu or items 715 to 721 of the VTR SETUP menu.

local: Select this setting when controlling the internal digital processor from the control panel of the VTR.

rmt: Select this setting when using the optional BVR-50 Remote Controller to remotely control the internal digital video processor.

For details on items 715 to 721 of the VTR SETUP menu, refer to Menu List on page A-28.

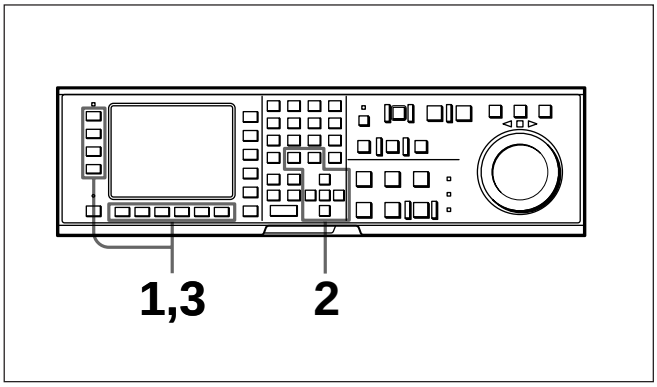
Note

Changing the PROC CONTRL setting during playback may cause a momentary interruption in the sound output.

4-5-4 Adjusting the Output Video Signal (VIDEO GAIN to SYSTEM SC)

Adjusting the output video signal

Follow the procedure below to adjust the output video signal.



Adjusting the output video signal

1 Press the function button (F4 to F10) whose setting you wish to set.
The setting display section lights up.

2 Change the numerical value by pressing the ⍓ or ⍒ button (or + or – button).
To change the value quickly, press the buttons while holding down the SFT button.

To set the preset value
Press the center cursor button.
PRST appears over the respective function button.

3 Press the function button after adjusting the numerical value.

Adjusting the output level

Make this adjustment with the F4 (VIDEO GAIN) button.

prst: Selects the standard setting.
Numerical value: 0 to B50H
Adjustable range: –3 to +3 (dB)

The range of the numerical value may be adjusted through 714. VIDEO ADJUST RANGE of the VTR SETUP menu. The range is ±3 dB when controlling the VTR from a device (such as a BVR-50) connected to the VIDEO CONTROL connector in the connector panel.

Adjusting the chroma output level

Make this adjustment with the F5 (CHROMA GAIN) button.

prst: Selects the standard setting.
Numerical value: 0 to B50H
Adjustable range: –3 to +3 (dB)

The range of the numerical value may be adjusted through 716. CHROMA GAIN of the VTR SETUP menu. The range is ±3 dB when controlling the VTR from a device (such as a BVR-50) connected to the VIDEO CONTROL connector in the connector panel.

Adjusting the setup level/black level

DVW-A500/1 and 500/1 only
Adjust the setup level with the F6 (SETUP LEVEL) button.

prst: Selects the standard setting.
Numerical value: 0 to 220H
Adjustable range: –30 to +30 (IRE)

DVW-A500P/1 and 500P/1 only
Adjust the black level with the F6 (BLACK LEVEL) button.

prst: Selects the standard setting.
Numerical value: 0 to 220H
Adjustable range: –210 to +210 (mV)

Adjusting the Y/C delay during analog Betacam playback (DVW-A500/1 series only)

Make this adjustment with the F7 (Y/C DELAY) button.

prst: Selects the standard setting.
Numerical value: 0 to FFFH
Adjustable range: –100 to +100 (ns)

Adjusting the chroma phase

Set the hue (the relative phase between burst and chroma) with the F8 (CHROMA PHASE) button.

prst: Selects the standard setting.
Numerical value: 0 to FFH
Adjustable range: –30 to +30 (˚)

Adjusting the system synchronization phase

Make this adjustment to match the output phase of the VTR precisely to that of the reference signal, or to create special effects as fading, wrapping, and dissolving through connection with a switcher, and in conjunction with other VTRs.

The F9 (SYSTEM SYNC) button sets the sync phase of the output signal relative to the reference signal input to the VTR.

prst: Selects the standard setting.
Numerical value: 0 to FFH
Adjustable range: –15 to +15 (µs)

Adjusting the system sub-carrier phase

Make this adjustment to precisely match the output phase of the VTR relative to the phase of the reference signal with the level of the sub-carrier phase during editing using composite signals. This adjustment keeps the SCH (Sub-Carrier Sync) phase of the output constant.

The F10 (SYSTEM SC) button sets the sync and sub-carrier phases of the output signal relative to the reference signal input to the VTR.

prst: Selects the standard setting.
Numerical value: 0 to 3FFH
Adjustable range: –200 to +200 (ns)

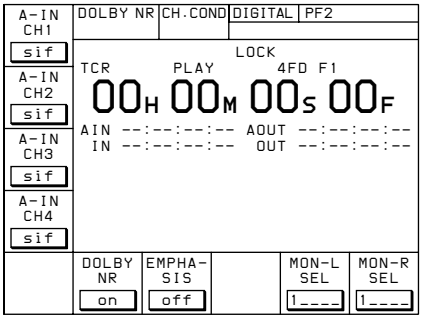
4-6 PF2 Menu (Factory Settings)

The PF2 menu is used to register frequently used menu items.
When shipped from the factory, the PF2 menu contains the adjustment menu for audio signals. If you later use the PF2 menu to register items from other menus, you can restore the PF2 menu to its original factory settings by recalling SETUP BANK F from the VTR memory banks.

For details on registration methods, refer to "4-1-3 Registering Items to the PF1/2 Menus" on page 4-3, and on restoring factory-set menu items, refer to "4-1-4 VTR Memory Bank Function" on page 4-4.

To activate the PF2 menu screen

Press the PF2 button.



PF2 menu display

PF2 menu (factory settings)

Button	Indication	Function	Settings
F1	A-IN CH1	Selects the audio input signal for audio channel 1.	sif, aes/ebu, analg
F2	A-IN CH2	Selects the audio input signal for audio channel 2.	sif, aes/ebu, analg
F3	A-IN CH3	Selects the audio input signal for audio channel 3.	sif, aes/ebu, analg
F4	A-IN CH4	Selects the audio input signal for audio channel 4.	sif, aes/ebu, analg
F5			
F6	DOLBY NR (DVW-A500/1 series only)	Sets the Dolby NR[1)].	on, off
F7	EMPHASIS	Sets the emphasis.	off, on
F9	MON-L SEL	Selects the monitor output signal for channel L.	1, 2, 3, 4, 5
F10	MON-R SEL	Selects the monitor output signal for channel R.	1, 2, 3, 4, 5

1) Dolby NR (Noise Reduction)
Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol a are trademarks of Dolby Laboratories Licensing Corporation.

4-6-1 Selecting the Audio Input Signal (A-IN ALL to A-IN CH4)

Function buttons F1 (A-IN CH1) to F4 (A-IN CH4) select the audio input signal for the various channels.

sif: Selects the audio signal input through the SERIAL V/A INPUT connector.

aes/ebu: Selects the audio signal input through the AUDIO INPUT (AES/EBU) connectors.

analg: Selects the audio signal input through the ANALOG AUDIO INPUT connectors.

4-6-2 Setting the Dolby NR System (DOLBY NR) (DVW-A500/1 Series Only)

The Dolby NR (noise reduction) C system, which is used for cue audio tracks, can be turned on or off only when using an oxide tape. The system automatically turns on when using a metal tape. Press the F6 (DOLBY NR) button to change the DOLBY NR setting.

on: Select this setting to play an analog Betacam oxide tape with the Dolby NR system.

off: Select this setting to play an analog Betacam oxide tape without the Dolby NR system.

4-6-3 Setting Emphasis (EMPHASIS)

To emphasize to a digital audio signal that has been converted from an analog audio input signal, set the F7 (EMPHASIS) button to on.
This setting also allows you to emphasize while digitizing a playback audio signal from a conventional Betacam cassette.

4-6-4 Selecting the Monitor Output Signal (MON-L SEL/MON-R SEL)

The F9 (MON-L SEL) and F10 (MON-R SEL) buttons allow you to specify the audio channel to be output from the left and right MONITOR OUTPUT connectors, respectively.

1: Audio channel 1
2: Audio channel 2
3: Audio channel 3
4: Audio channel 4
5: Analog cue channel

When multiple channels are selected for a single connector, all of the numbers are displayed.
Select the output signal to be monitored as follows:

1 Press the F9 (MON-L SEL) or F10 (MON-R SEL) button. The setting display section lights up.

2 Press numeric buttons 1 to 4 to select audio channels 1 to 4, or numeric button 5 for the analog cue channel.
Example: Pressing numeric buttons 1 and 2 selects audio channels 1 and 2, leaving audio channels 3 and 4, and the analog cue channel off.
"12..." appears in the display.

3 To set the entered audio channels, press the respective function button (F9 or F10).

4-7 SET UP Menu

In the SET UP menu, you can store and recall menu settings to and from the VTR memory banks and IC memory card, register items to the PF menu, and set items in the VTR SETUP menu and PANEL SETUP menu.

For details on storing and recalling data to or from the VTR memory banks or IC memory card, and registering items to the PF menus, refer to "4-1 Registering and Storing Menu Settings" on page 4-1.

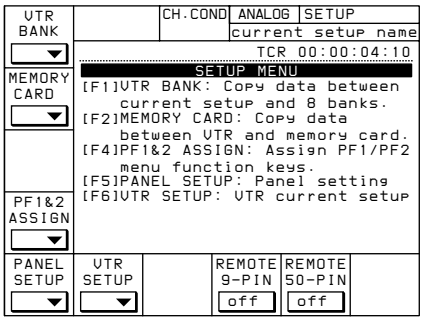
To activate the SET UP menu

Press the SET UP button.

To change the SET UP menu page

Press the ALT button.

"▼" indicates that more than one menu page exists.



SET UP menu display

SET UP menu

Button	Indication	Function	Settings
F1	VTR BANK	*Refer to "4-1-4 VTR Memory Bank Function" on page 4-4.*	
F2	MEMORY CARD	*Refer to "4-1-5 IC Memory Card Function" on page 4-6.*	
F4	PF1&2 ASSIGN	*Refer to "4-1-3 Registering Items to the PF1/2 Menus" on page 4-3.*	
F5	PANEL SETUP	*Refer to "4-7-2 PANEL SETUP Menu" on page 4-42.*	
F6	VTR SETUP	*Refer to "4-7-1 VTR SETUP Menu" on page 4-40.*	
F8	REMOTE 9-PIN	Selects remote operation through a device connected to the REMOTE1-IN(9P)/OUT(9P) connectors.	on, off
F9	REMOTE 50-PIN	Selects remote operation using a device (optional BKDW-509) connected to the REMOTE PARALLEL I/O(50P) connector.	on, off
ALT/F9	AUDIO SG	Sets the audio test signal.	on, off
ALT/F10	VIDEO SG	Sets the video test signal.	on, off

Selecting remote operation mode

When operating the VTR with an external device, set the F8 (REMOTE 9-PIN) button or F9 (REMOTE 50-PIN) button to on.

When the F8 (REMOTE 9-PIN) button is set to on

You can operate the VTR with a device connected to the REMOTE1-IN(9P)/OUT(9P) connectors.

When the F9 (REMOTE 50-PIN) button is set to on

You can operate the VTR with a device (optional BKDW-509) connected to the REMOTE PARALLEL I/O(50P) connector.

Note

When operating the VTR through an external device, all of the tape operation and editing buttons are disabled, with the exception of the STOP and EJECT buttons. You may also set the VTR so that all buttons are enabled or disabled. Perform this setting through 006. LOCAL FUNCTION ENABLE of the VTR SETUP menu. You cannot, however, disable the menu and remote operation mode selection buttons.

Setting the test signal

To turn on the internal test signal generator, press the ALT button, then set the F9 (AUDIO SG) button to on, or press the ALT button, then set the F10 (VIDEO SG) button to on.

Select the audio test signal through 808. INTERNAL AUDIO SIGNAL GENERATOR and the video test signal through 710. INTERNAL VIDEO SIGNAL GENERATOR in the VTR SETUP menu.

Note

Setting the test signal to OFF in item 710 or 808 in the VTR SETUP menu turns off the F9 (AUDIO SG) button or F10 (VIDEO SG) button, respectively. To turn on the test signal generator, select the test signal on respective item again, turning on the F9 (AUDIO SG) button or F10 (VIDEO SG) button.

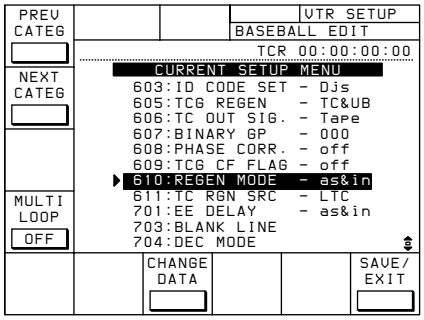
4-7-1 VTR SETUP Menu

All menu items required for setting up the VTR operating conditions are displayed in the scrollable VTR SETUP menu.
Items which are frequently used can be registered in the PF1/2 menus. Those items that can be registered in a PF menu are displayed in the scrollable PF1&2 ASSIGN menu.

For details on the VTR SETUP menu items, refer to "Menu List" on page A-7.
For details on registering items to the PF1/2 menus, refer to "4-1-3 Registering Items to the PF1/2 Menus" on page 4-3.

To activate the VTR SETUP menu

Press the SET UP button, then press the F6 (VTR SETUP) button.



VTR SETUP menu display

VTR SETUP menu

Button	Indication	Function
F1	PREV CATEG	Move to the beginning of the previous category.
F2	NEXT CATEG	Move to the beginning of the next category.
F4	MULTI LOOP	Multi-loop
F7	CHANGE DATA	Changes the setting.
F9		
F10	SAVE/EXIT	Sets the value and exits the VTR SETUP menu.

Scrolling items in the VTR SETUP menu

Press the [Λ] and [V] to scroll the items in the VTR SETUP menu.

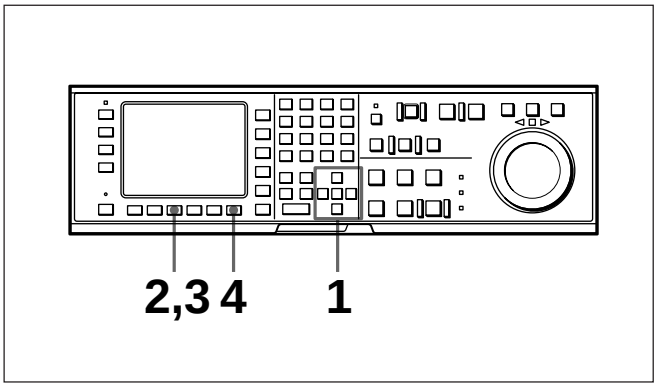
To search the menu by category

Items in the VTR SETUP menu are divided into

Menu number	Category
Hs	Items related to the hours meter
000s	Items related to VTR operations
100s	Items related to operation panels
200s	Items related to remote interface
300s	Items related to editing
400s	Items related to prerolling
500s	Items related to recording protection
600s	Items related to the time code generator
700s	Items related to the video control
800s	Items related to the audio control
900s	Items related to digital process
Ks	Items set by switches on models DVW-A500, A500P, 500, and 500P

categories according to type of settings they perform.
Pressing the [F1] (PREV CATEG) button selects the first item of the previous category.
Pressing the [F2] (NEXT CATEG) button selects the first item of the next category.

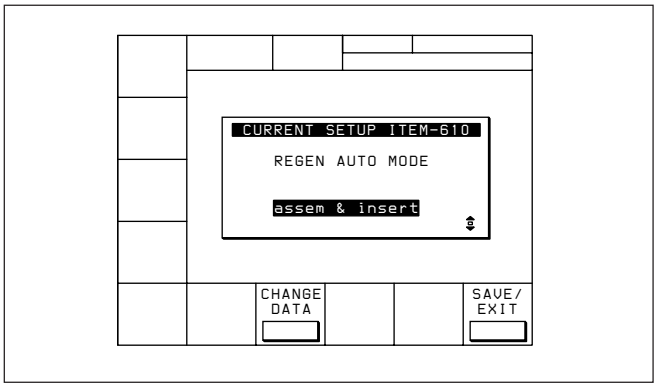
Changing settings



Changing settings

1 Press the [Λ] or [V] button to move the cursor (▶) to the item to be changed.

2 Press the [F7] (CHANGE DATA) button.
The window for changing settings appears.



3 Press the [F7] (CHANGE DATA) button repeatedly to select the new setting.
When sub-items appear, change the setting as required with the [Λ] or [V] button, then press the [F7] (CHANGE DATA) button repeatedly.

4 Press the [F10] (SAVE/EXIT) button.
The new value is set and the window for changing settings disappears.

5 Repeat Steps **1** to **4** to change more settings.

6 Press the [F10] (SAVE/EXIT) button again.
The new settings are saved and the SETUP menu display appears again.

To activate the multi-loop function

Press the [F4] (MULTI LOOP) button repeatedly to select the setting.

Note

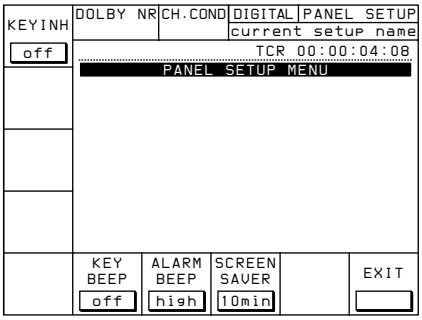
The [F4] (MULTI LOOP) button is operative only when the cursor is positioned on a 700s item (related to the video control) in the VTR SETUP menu.

The muti-loop function is automatically cancelled when the control panel exits the VTR SETUP menu.

4-7-2 PANEL SETUP Menu

The PANEL SETUP menu is used to set the operation conditions of the upper and lower control panels.

To activate the PANEL SETUP menu
Press the SET UP button, then press the F5 (PANEL SETUP) button.



PANEL SETUP menu display

PANEL SETUP menu

Button	Indication	Function	Settings
F1	KEYINH	Disables all button operations.	on, off
F6	KEY BEEP	Sets the keyboard sound.	high, low, off
F7	ALARM BEEP	Sets the alarm.	high, low, off
F8	SCREEN SAVER	Sets the screen-saver.	3min, 10min, 60min, off
F10	EXIT	Exits the PANEL SETUP menu.	

Disabling the upper and lower control panel buttons

Set the F1 (KEYINH) button to on.

You can select buttons to be disabled through 118. KEY INHIBIT SWITCH EFFECTIVE AREA in the VTR SETUP menu.

Setting the keyboard sound

Press the F6 (KEY BEEP) button repeatedly.
high: The keyboard sound is loud.
low: The keyboard sound is weak.
off: The keyboard sound is off.

Setting the alarm

Press the F7 (ALARM BEEP) button repeatedly.
high: The alarm sound is loud.
low: The alarm sound is weak.
off: The alarm sound is off.

Setting the elapsed time until screen-saver activated time

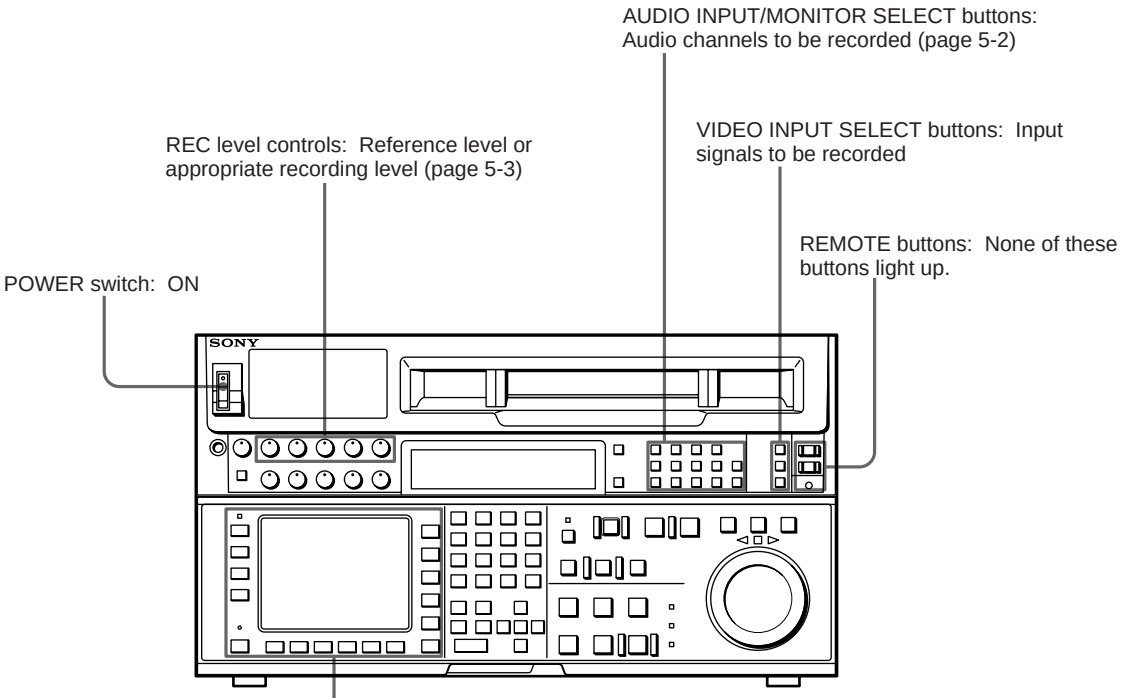
Press the F8 (SCREEN SAVER) button repeatedly.
3min: The screen-saver goes on 3 minutes after the last button operation.
10min: The screen-saver goes on 10 minutes after the last button operation.
60min: The screen-saver goes on 60 minutes after the last button operation.
off: The screen-saver function is off.

5-1 Preparing for Recording

5-1-1 Setting Switches and Menus

Before recording, set the switches and menus as shown in the diagram below.

For details, refer to the pages indicated in the parentheses.


AUDIO INPUT/MONITOR SELECT buttons:
Audio channels to be recorded (page 5-2)
REC level controls: Reference level or appropriate recording level (page 5-3)
VIDEO INPUT SELECT buttons: Input signals to be recorded
REMOTE buttons: None of these buttons light up.
POWER switch: ON
SONY

Menu settings
[F2] (CONFI) button in the HOME menu: off for normal use.
ALT/[F1] (REC INH) buttons in the HOME menu: off
ALT/[F2] (PB/EE) buttons in the HOME menu: PB/EE
[F1] (TIMER SEL) button in the TC menu: Select the time data to be displayed.
[F6] (TCG SOURCE) button in the TC menu: int or ext (page 4-21)
[F7] (TCG MODE) button in the TC menu: regen or prst (page 4-22)
[F10] (VITC) button in the TC menu: on when recording VITC; off when not recording

Setting switches and menus

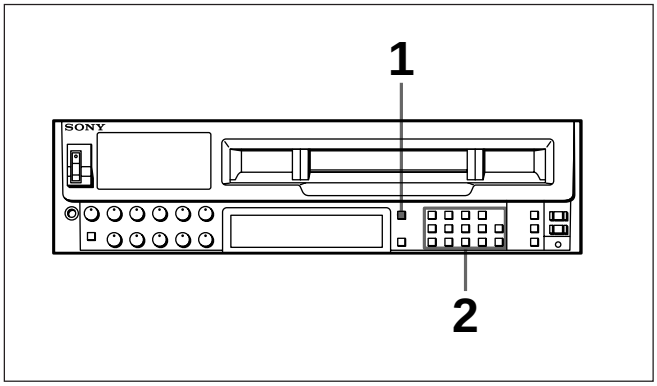
5-1-2 Selecting Audio Signals

This section describes how to select the audio signals for input and monitoring.

For details on switch and menu settings, refer to "5-1-1 Setting Switches and Menus" on the previous page.

Selecting the audio input signals

Press the AUDIO INPUT/MONITOR SELECT buttons on the upper control panel as follows to select the audio input signal and channels.



Selecting the audio input signals

1 Press the INPUT SELECT button so that it lights up.
The AUDIO INPUT/MONITOR SELECT button(s) light(s) up to indicate the audio input signal type and the currently selected audio channel.

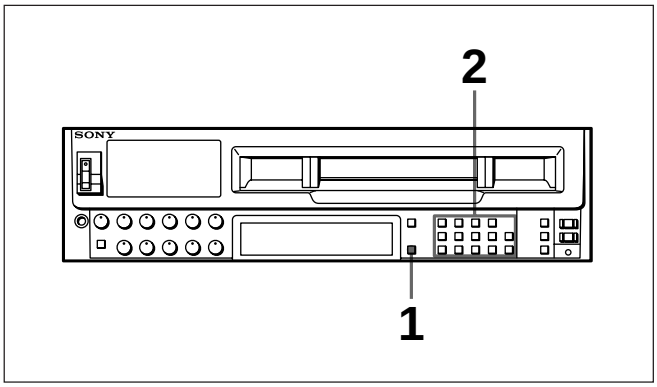
2 Select the signals to be input and the channels by pressing the following buttons:
- SIF CH-1 to CH-4 buttons: Select audio channels 1 to 4 input through the SERIAL V/A INPUT connector.
- AES/EBU CH-1 to CH-4: Select audio channels 1 to 4 input through the AUDIO INPUT (AES/EBU) connectors.
- ANALOG CH-1 to CH-4 and CUE buttons: Select audio channels 1 to 4 and cue channel input through the ANALOG AUDIO INPUT connectors.

This specification can also be done by setting the F1 (A-IN CH1) to F4 (A-IN CH4) buttons in the PF2 menu.

For details, refer to "4-6 PF2 Menu (Factory Settings)" on page 4-36.

Selecting audio signals to be monitored

Press the AUDIO INPUT/MONITOR SELECT buttons on the upper control panel as follows to select the audio signals output to the PHONES jack and the MONITOR OUTPUT L and R connectors.



Selecting audio signals to be monitored

1 Press the MONITOR SELECT button so that it lights up.
The AUDIO INPUT/MONITOR SELECT button(s) light(s) up to indicate the audio input signal type and the channel(s) being monitored.

2 Press the button(s) for the audio signal and the channel(s) to be output to the PHONES jack and the MONITOR OUTPUT L and/or R connector(s).

This specification can also be done by setting the F9 (MON-L SEL) and F10 (MON-R SEL) buttons in the PF2 menu.

For details, refer to "4-6 PF2 Menu (Factory Settings)" on page 4-36.

To adjust the audio output level of the PHONES jack

Rotate the PHONES level control on the upper control panel.

To adjust the audio output level of the MONITOR OUTPUT connectors

You can make an initial settings to allow the audio output level of the MONITOR OUTPUT connector to be adjusted with the PHONES level control on the upper control panel.

For details, refer to "1-9. SWITCH SETTINGS ON THE CONNECTOR PANEL AND BOARDS" in the Installation and Maintenance Manual.

5-1-3 Adjusting the Audio Recording Level

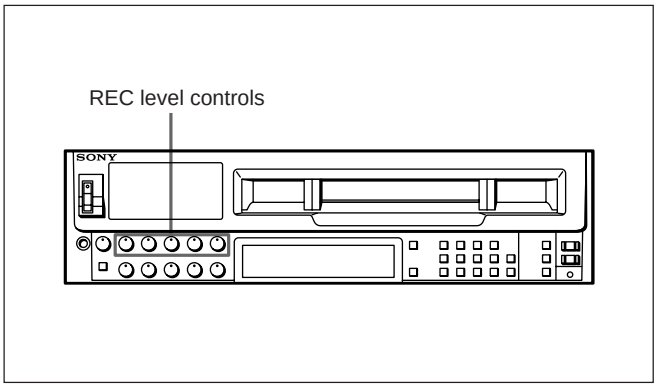
Adjusting the recording level

Recording with the reference level

If the REC level controls on the upper control panel are pushed in, audio signals are recorded at the reference level (0 dB reference level indicated in the audio level meters for +4 dBm input).

Recording with the specific recording level

Pull out the REC level controls for the appropriate channels and rotate them so that the audio level meters indicate approximately 0 dB for the average audio signal input level.



Adjusting the recording level

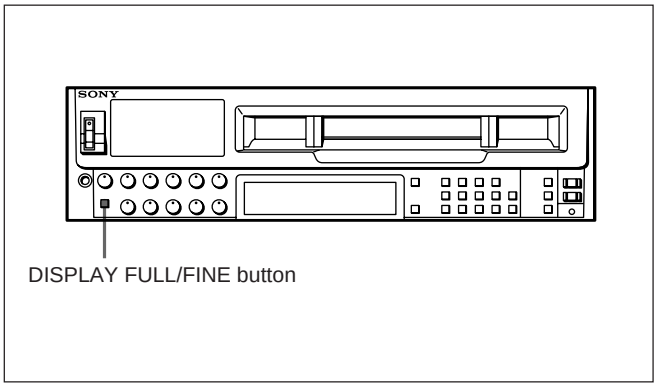
Selecting the display range of the audio level meters

You can switch the range of audio level meters display by pressing the DISPLAY FULL/FINE button on the upper control panel.

FULL mode: The meter range is –60 to 0 dB or –40 to +20 dB.

FINE mode: The meter scale is enlarged, and the signal level is indicated in 0.25 dB steps, with the reference marker indicated by a lit LED in the middle of each meter.

This specification can also be done by setting 806. LEVEL METER SCALE in the VTR SETUP menu.



Selecting the display range of the audio level meters

5-1-4 Monitoring Simultaneous Playback of Video and Audio Signals Being Recorded

Monitoring signals being recorded

To monitor audio and video signals currently being recorded, press the HOME button, then select on by pressing the F2 (CONFI) button.

You can also set the VTR to play back the section of tape before and after the edit portion with the CONFI heads during editing.

For details, refer to "4-2-2 Simultaneous Playback During Recording (CONFI)" on page 4-14.

Monitoring previously recorded video and audio signals while recording

To monitor previously recorded audio and video signals while recording (preread function), press the F1 (PRE READ) button while holding down the SFT button in the HOME menu.

For details, refer to "4-2-1 Setting the Preread Function (PRE READ)" on page 4-14.

5-1-5 Recording Analog Audio

Recording with emphasis

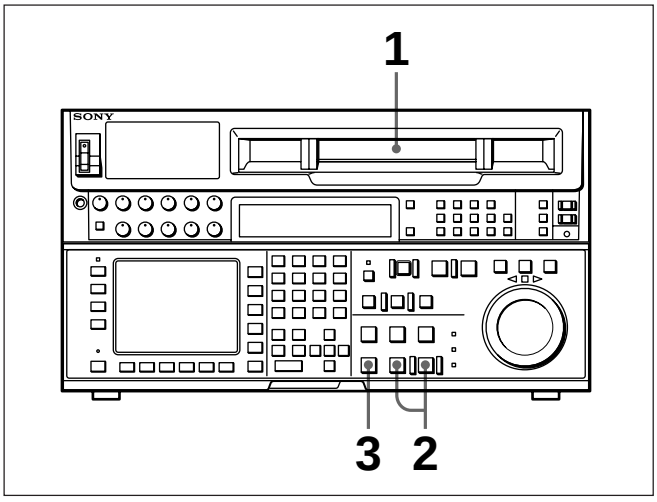
You can emphasize analog audio signals that are recorded from the ANALOG AUDIO INPUT connectors. By emphasizing signals during recording, then de-emphasizing them during playback, high frequency noise can be suppressed without affecting the original signal.

To record with emphasis, select on by pressing the F7 (EMPHASIS) button in the PF2 menu (factory setting).

The signals recorded with emphasis are automatically de-emphasized during playback regardless of the setting of the F7 (EMPHASIS) button.

5-2 Recording

To record, follow the procedure below.



Recording

1 Check that the REC INHIBIT indicator is off, then insert a cassette.

For details on inserting a cassette, refer to "3-3-2 Inserting and Ejecting Cassettes" on page 3-7.

2 Press the PLAY button while holding down the REC button.
Recording starts and the SERVO indicator lights up to indicate that the servo is locked.

3 Press the STOP button to stop recording.

If the recording continues to the end of the tape

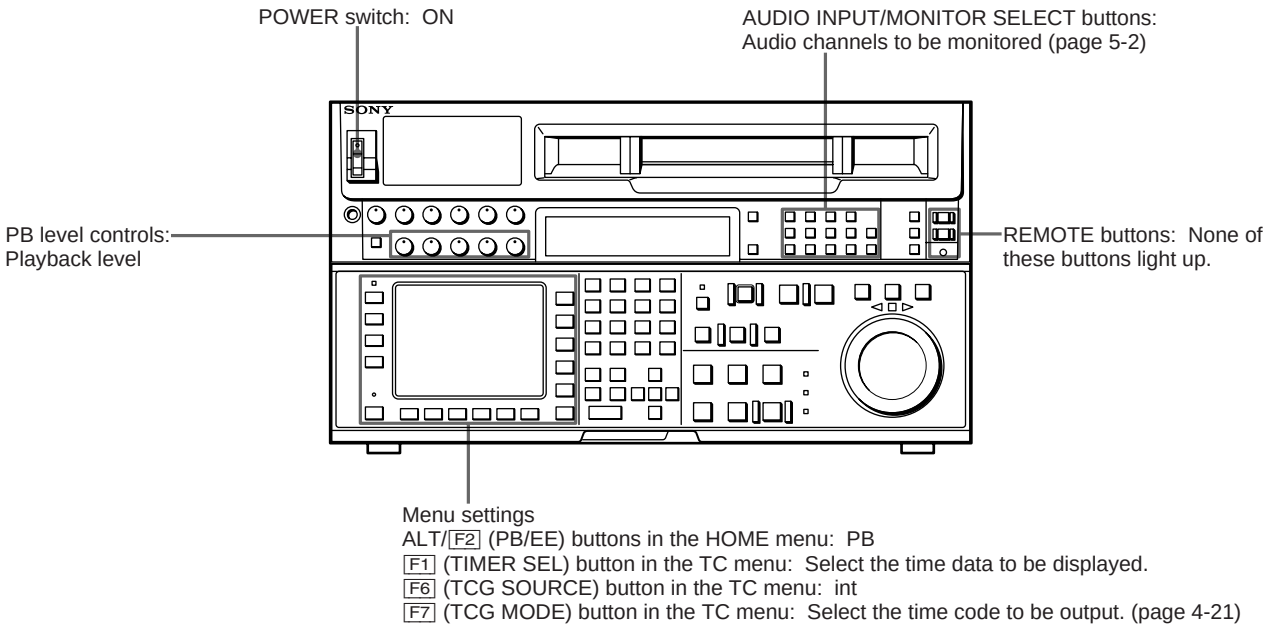
The tape automatically rewinds to the beginning and stops.

5-3 Preparing for Playback

5-3-1 Setting Switches and Menus

Before starting playback, set the switches and menus as shown in the diagram below.

For details, refer to the pages indicated in the parentheses.


POWER switch: ON
AUDIO INPUT/MONITOR SELECT buttons:
Audio channels to be monitored (page 5-2)
PB level controls:
Playback level
REMOTE buttons: None of these buttons light up.
Menu settings
ALT/F2 (PB/EE) buttons in the HOME menu: PB
F1 (TIMER SEL) button in the TC menu: Select the time data to be displayed.
F6 (TCG SOURCE) button in the TC menu: int
F7 (TCG MODE) button in the TC menu: Select the time code to be output. (page 4-21)

Setting switches and menus

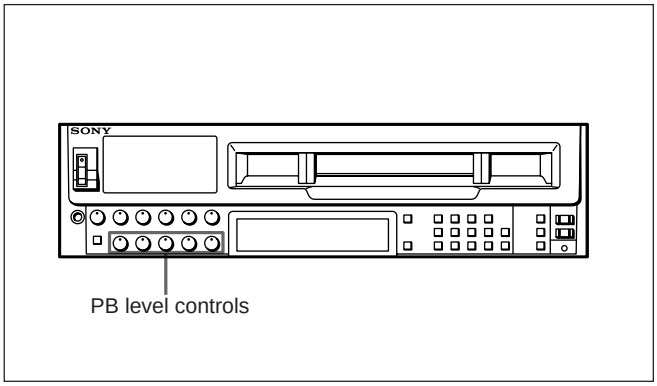
5-3-2 Adjusting the Audio Playback Level

If the PB level controls on the upper control panel are pushed in, audio signals are output at the factory-set level (+4 dBm output for signals recorded at the 0 dB reference level).

For details on changing the factory-set reference output level, refer to "1-9. SWITCH SETTINGS ON THE CONNECTOR PANEL AND BOARDS" in the Installation Manual.

To adjust the audio playback level manually

Pull and rotate the PB level control for the corresponding channel.



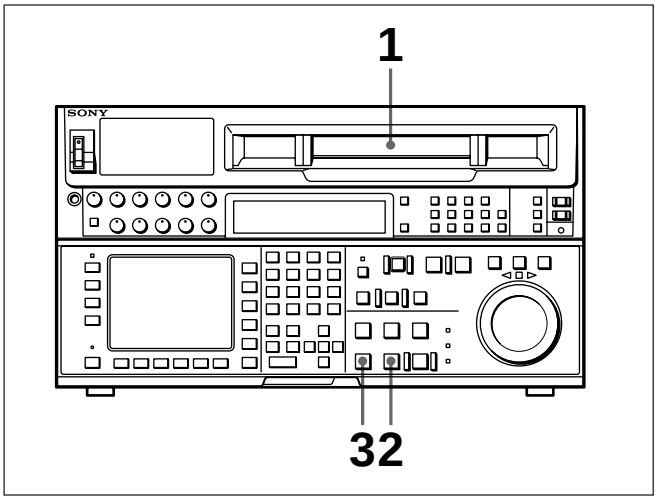
To adjust the audio playback level manually

5-4 Playback

There are five types of playback:
• Normal-speed playback
• Jog/Shuttle/Variable mode playback
• Capstan override playback
• DMC (Dynamic Motion Control) playback
• Program playback

5-4-1 Normal-Speed Playback

Follow the procedure below to play back at normal speed.



Normal-speed playback

1 Insert a cassette.

For details on inserting a cassette, refer to "3-3-2 Inserting and Ejecting Cassettes" on page 3-7.

2 Press the PLAY button.
Playback starts and the SERVO indicator lights up to indicate that the servo is locked.

3 Press the STOP button to stop playback.

If playback continues to the end of the tape

The tape automatically rewinds to the beginning and stops.

Using Dolby noise reduction (DVW-A500/1 series only)

The VTR is equipped with the Dolby C noise reduction system for analog Betacam and Betacam SP playback.

To activate the Dolby C noise reduction system when playing back an oxide tape, set the F6 (DOLBY NR) button in the PF2 menu (factory seting) to on.
During playback of a metal tape, however, the Dolby C noise reduction system turns on no matter what this setting is.

5-4-2 Variable Speed Playback in Jog/Shuttle/Variable Modes

In Jog/Shuttle/Variable modes, you can change the playback speed as follows:

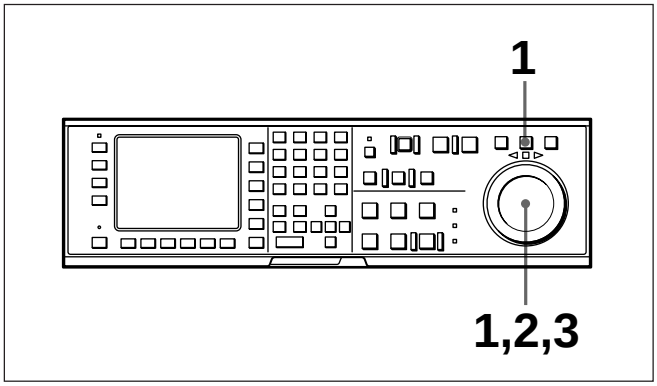
Jog mode: The playback speed corresponds to the rotational speed of the search dial, ranging from –1 to +1 or –3 to +3 times normal playback speed (selectable in VTR SETUP menu).

Shuttle mode: The playback speed corresponds to the angle of rotation of the search dial, ranging from –50 to +50 times normal speed when playing back a Digital Betacam tape, and –35 to +35 (DVW-A500/1 and 500/1 only) or –42 to +42 (DVW-A500P/1 and 500P/1 only) times normal speed when playing back an analog Betacam tape.

Variable mode: Playback speed is –1 times normal speed when the search dial is rotated fully counterclockwise, and +3 times normal speed when rotated clockwise.

Jog mode playback

Follow the procedure below to play back in jog mode.



Jog mode playback

1 Press the search dial or the JOG button so that the JOG button lights up.
Pressing the dial toggles the VTR between jog mode and shuttle mode. Either the JOG or SHUTTLE button lights up to indicate the current mode.
The ■ indicator lights up and the VTR enters still-picture mode.

2 Rotate the search dial in the desired playback direction and to the desired angle.
The tape is played back slowly, at a speed corresponding to the rotational speed of the search dial. A direction indicator (◀ or ▶) lights up to indicate the direction of playback.

3 Stop rotating the search dial to stop jog mode playback.
The ■ indicator lights up.

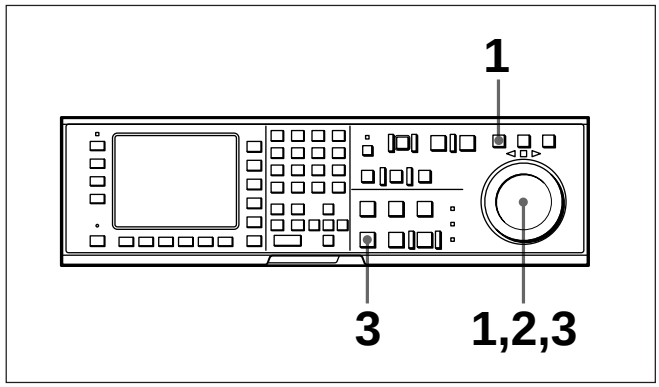
Note

The VTR is factory set so that pressing the search dial switches the VTR between jog and shuttle modes, however, you can set the VTR so that this function is disabled.

For details on switching the search dial functions, refer to"1-11. SEARCH DIAL MODE SWITCHING" in the Installation Manual.

Shuttle mode playback

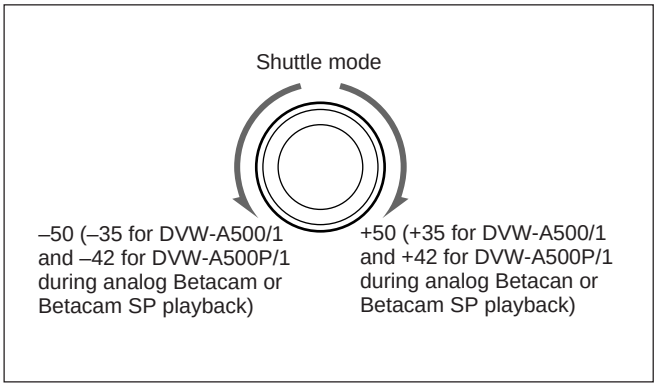
Follow the procedure below to play back in shuttle mode.



Shuttle mode playback

1 Press the search dial or the SHUTTLE button so that the SHUTTLE button lights up.
Pressing the dial toggles the VTR between jog mode and shuttle mode. Either the JOG or SHUTTLE button lights up to indicate the current mode.
The ■ indicator lights up and the VTR enters still-picture mode.
After turning on the VTR, you should always set the search dial to its center position. (The ■ indicator, however, lights up when the VTR is turned on, no matter what the position of the search dial is.)

2 Rotate the search dial in the desired playback direction and set the angle of rotation as required to obtain the desired playback speed.


Shuttle mode
–50 (–35 for DVW-A500/1 and –42 for DVW-A500P/1 during analog Betacam or Betacam SP playback)
+50 (+35 for DVW-A500/1 and +42 for DVW-A500P/1 during analog Betacan or Betacam SP playback)

The tape is played back at a speed that corresponds to the angle of the search dial. A direction indicator (◀ or ▶) lights up to indicate the direction of playback.
The search dial clicks at the positions for still-picture and ±10 times normal-speed playback.

The setting of maximum speed of analog Betacam or Betacam SP playback in shuttle mode can be done in 102. MAXIMUM TAPE SPEED in the VTR SETUP menu.

3 Set the search dial to center position for still-picture, or press the STOP button to stop shuttle mode playback.

To return to normal-speed playback

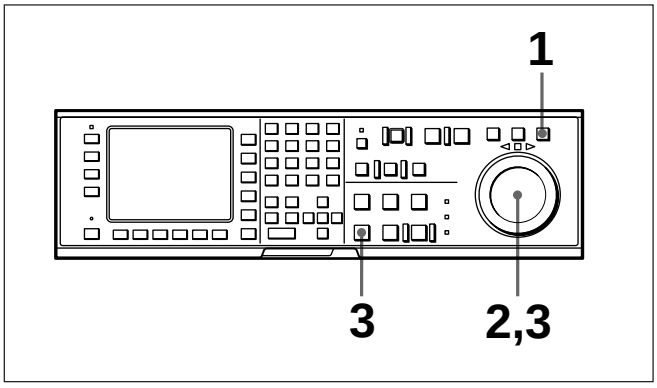
Press the PLAY button.

To alternate between normal-speed playback and shuttle mode playback

After you have set the search dial to the angle that corresponds to the desired playback speed, pressing the PLAY button or SHUTTLE button selects normal-speed playback or shuttle mode playback, respectively. To stop or start shuttle mode playback, press the STOP button or SHUTTLE button, respectively.

Variable mode playback

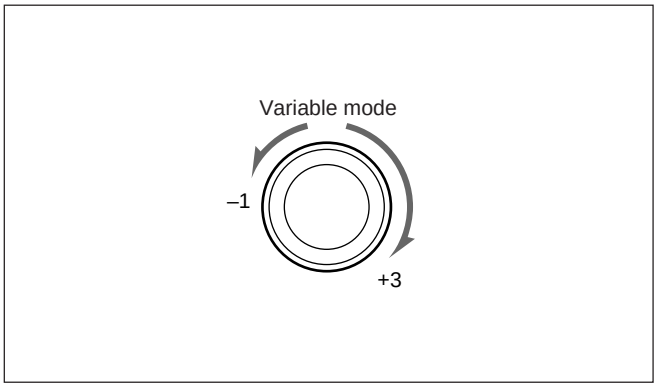
Follow the procedure below to play back in variable mode.



Variable mode playback

1 Press the VAR button so that it lights up.
The ■ indicator lights up and the VTR enters still-picture mode.
After turning on the VTR, you should always set the search dial to its center position. (The ■ indicator, however, lights up when the VTR is turned on, no matter what the position of the search dial is.)

2 Rotate the search dial in the desired playback direction and set the angle of rotation as required to achieve the desired playback speed.



The tape is played back at a speed that corresponds to the angle of the search dial. A direction indicator (◀ or ▶) lights up to indicate the direction of playback.
The search dial clicks at the positions for still-picture and normal-speed playback.

(Continued)

3 Set the search dial to center position for still-picture, or press the STOP button to stop variable mode playback.

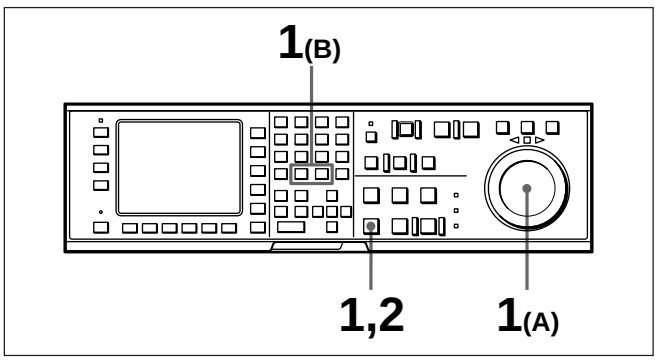
To return to normal-speed playback
Press the PLAY button

To alternate between normal-speed playback and variable mode playback
After you have set the search dial to the angle that corresponds to the desired playback speed, pressing the PLAY button or VAR button selects normal-speed playback or variable mode playback, respectively.
To stop or start variable mode playback, press the STOP button or VAR button, respectively.
The VTR is factory set to enter jog or shuttle mode during playback whenever you rotate the search dial. You can set the VTR through 101. SELECTION FOR SEARCH DIAL ENABLE in the VTR SETUP menu so that pressing the JOG, SHUTTLE, or VAR button and then rotating the search dial activates the respective mode.

5-4-3 Capstan Override Playback

When playing back the same program on two VTRs, you can adjust the playback phases of the two VTRs so that they are synchronized.
There are two ways to make this adjustment:
(A) Using the search dial
(B) Using the +/– buttons

Note
When using method (A), change the system setup so that jog/shuttle mode playback is inhibited even when rotaing the search dial. Doing so prevents the VTR from accidentally entering jog/shuttle mode during capstan override playback. Make this setting through 101. SELECTION FOR SEARCH DIAL ENABLE in the VTR SETUP menu.



Capstan override playback

1 Use either method (A) or (B).
(A)Rotate the search dial while holding down the PLAY button to adjust the playback speed. The adjustment range is ±15% (in steps of 1%) of the normal playback speed.
(B)Press the + or – button while holding down the PLAY button to adjust the playback speed. While the buttons are pressed, the playback speed increases or decreases by 8%, respectively.
During playback at increased or decreased speed, the SERVO indicator goes off since the servo is not locked (capstan override).

2 Release the PLAY button after you have finished adjusting the phase.
The VTR returns to normal-speed playback and the SERVO indicator lights up.

5-4-4 DMC Playback

Overview of DMC playback

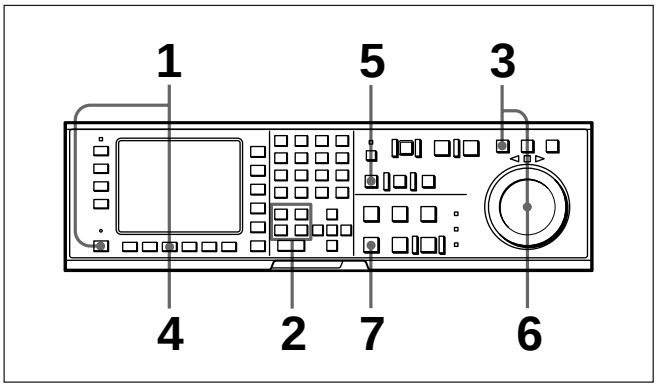
DMC (Dynamic Motion Control) playback allows you to vary the playback speed between –1 and +3 times normal speed for certain sections of the tape, then store the specified speed in memory for later playback.
For example, during a live broadcast of a sporting event, you can set the start and end points of important scenes while recording, and immediately play back and broadcast those scenes using DMC playback.

Before performing DMC playback

Set 111. PROGRAM PLAY in the VTR SETUP menu to disable.

Storing playback speeds in memory

Follow the procedure below to store playback speeds in memory.



Storing playback speeds in memory

1 In HOME menu, press the ALT button, then set the F7 (DMC) button to on.

2 During playback or recording, press either of the following buttons together with the ENTRY button to set start and end points, respectively.
- On-air start point: AUDIO IN button
- Speed variation start point: IN button
- Speed variation end point: OUT button
- On-air end point: AUDIO OUT button

3 Press the search dial or the SHUTTLE button to enter shuttle mode.
The SHUTTLE button lights up.

4 Rotate the search dial while holding down the ALT/F7 (DMC) button to select the initial playback speed.
The selected speeds are shown in the time data display window in the menu display as follows:

Playback speed	Display
Normal-speed playback	DMC-SPD PLAY
Still-picture playback	DMC-SPD STILL
Forward playback at 0.03 times normal speed	DMC-SPD +0.03
Reverse playback at 0.1 times normal speed	DMC-SPD –0.1

While the playback speed is being selected, the tape does not move. Once the selection has been made, release the F7 (DMC) button.

5 Press the PREVIEW button.
The tape is prerolled and played back at normal speed from the preroll point to the speed variation start point. The moment the tape passes the speed variation start point, the MEMORY indicator in the display starts flashing and the tape is played back at the initial speed selected in Step **4**.
The ■ indicator appears in the time data display window, indicating that tape speed memorization in DMC mode is active.

6 Rotate the search dial to the position for the desired playback speed.
The speed variation is stored in memory while the MEMORY indicator is flashing. The moment the tape passes the speed variation end point, the MEMORY indicator lights up continuously instead to indicate that memorization of the playback speed has completed.
The ■ indicator then disappears.

7 Press the STOP button to stop the tape.

If the MEMORY indicator lights up before the tape reaches the speed variation end point

The VTR cannot store any further playback speed variations. The capacity of the playback speed memory is 120 seconds.

To confirm and change the stored speed

Press the PREVIEW button. The tape is played back from the speed variation start point to the speed variation end point at memorized speed. Rotate the search dial to change the speed as required.

To set the initial speed to normal speed

Press the PLAY button in Step **4**.

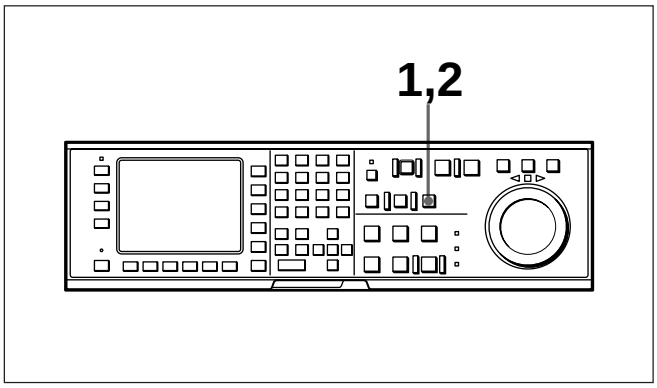
Notes on the ■ indicator and the MEMORY indicator

The ■ indicator shows that the tape speed memorization in DMC mode is taking place.
The MEMORY indicator flashes during playback speed memorization, then lights continuously when memorization of the playback speed has completed.

Performing DMC playback

There are two methods of starting DMC playback.
- Starting playback at the on-air cue from the on-air start point
- Starting playback immediately after prerolling

Notes
- To avoid operation errors, we recommend that you use the VTR alone when performing DMC playback.
- If two VTRs are connected for editing, you can still perform DMC playback, but only on the recorder VTR, and only when both the RECORDER and PLAYER buttons are off.



Performing DMC playback

To start playback at the on-air cue from the on-air start point

1 Press the REVIEW button.
The REVIEW button lights up and the tape is cued up to the on-air start point. After the tape is cued up, the REVIEW button flashes.

2 Press the REVIEW button again at the moment the on-air cue is given.
The REVIEW button lights up. When the tape passes the speed variation start point, DMC playback starts and continues at the speed(s) stored in memory. When the tape passes the speed variation end point, normal-speed playback starts and the tape stops at the on-air end point.

To start playback immediately after prerolling

Press the PREVIEW button.
The PREVIEW button lights up. When the tape passes the speed variation start point, DMC playback starts and continues at the speed(s) stored in memory. When the tape passes the speed variation end point, normal-speed playback resumes.

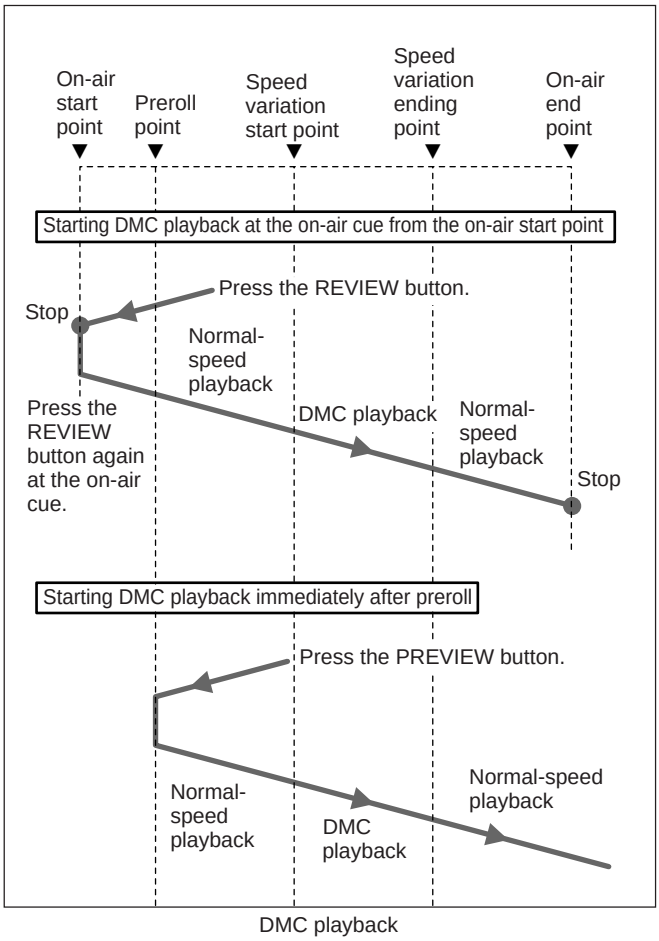
To stop the tape during DMC playback

Press the STOP button.

To exit DMC playback mode

Press the ALT/F7 (DMC) button while holding down the CLR button in HOME menu.

During DMC playback, the tape runs as shown in the diagram below.



DMC playback

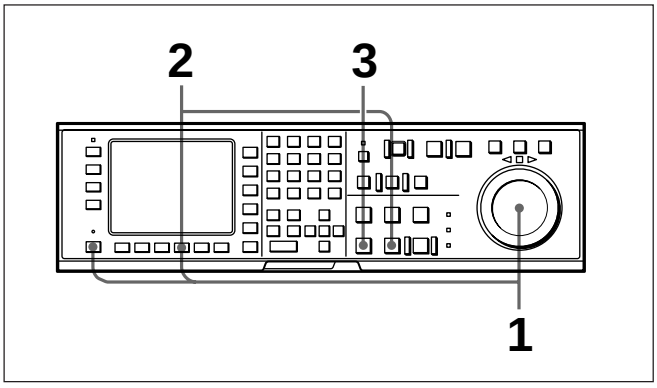
5-4-5 Program Playback

In program playback mode, you can play back a tape at a previously determined speed. This speed may be set within a range of normal playback speed ±15% (in 0.1% steps).
Installation of the optional BKDW-507 Audio Program Play Board allows you to obtain higher quality audio output during program playback.

Before performing program playback

Set 111. PROGRAM PLAY in the VTR SETUP menu to enable.

Performing program playback



1 Press the search dial or the JOG button to light up the JOG button, press the ALT button, and then rotate the search dial while holding down the F8 (P-PLAY) button to specify the playback speed. The adjustment range is ±15% normal playback speed.

2 Press the PLAY button while holding down the F8 (P-PLAY) button.
The F8 (P-PLAY) button lights up, and program playback starts.
You can change the playback speed during program playback by rotating the search dial while holding down the F8 (P-PLAY) button.

3 Press the STOP button to stop program playback. Program play mode is canceled.
Note that the playback speed during program play does not change until you change the playback speed or you turn the power off. Normal playback speed resumes when you turn the power off, then on again.

6-1 Basic Automatic Editing

6-1-1 Overview of Automatic Editing

Automatic edit modes

The VTR provides the following two modes for automatic editing:

- **Assemble mode**
  New scenes are added to the end of previously recorded scenes.
  CTL signals, time codes, video and audio signals on tape in the player are recorded onto tape in the recorder VTR.
- **Insert mode**
  New scenes are inserted into the middle of previously recorded scenes. CTL signals on tape in the recorder VTR are not overwritten. Video, digital audio, cue audio, and time code signals can be recorded separately.
  Both of these two edit modes support DMC editing.
  In insert mode, you can also use split editing.

Interpolation of time codes by the CTL counter

To use time codes as addresses of edit points, the time codes must be recorded on the tape in ascending order. As long as they are in ascending order, time codes do not have to be continuous.
The CTL counter automatically interpolates data for editing even if there are breaks in the continuity in the time codes.

Time codes recorded during automatic editing

During automatic editing, time codes recorded on the tape always follow immediately after time codes recorded right before an edit start point, regardless of the setting of the F6 (TCG SOURCE) and F7 (TCG MODE) buttons of TC menu.

For details on the switch settings necessary for changing the time codes recorded, refer to "4-3 TC Menu" on page 4-18 and the 600 menus in the VTR SETUP menu.

Steps in automatic editing

The sequence of steps that are taken to do automatic editing with two VTRs is as follows:

Select the edit mode (page 6-3).
↓
Set edit points for the recorder and player VTR (page 6-3).
↓
Preview the edit section (page 6-8).
↓
Perform the edit (page 6-11).
↓
Confirm and modify the edit points (pages 6-7 and 6-9).
↓
Confirm the results of the edit (page 6-13).

Editing precautions

Using an editing control unit

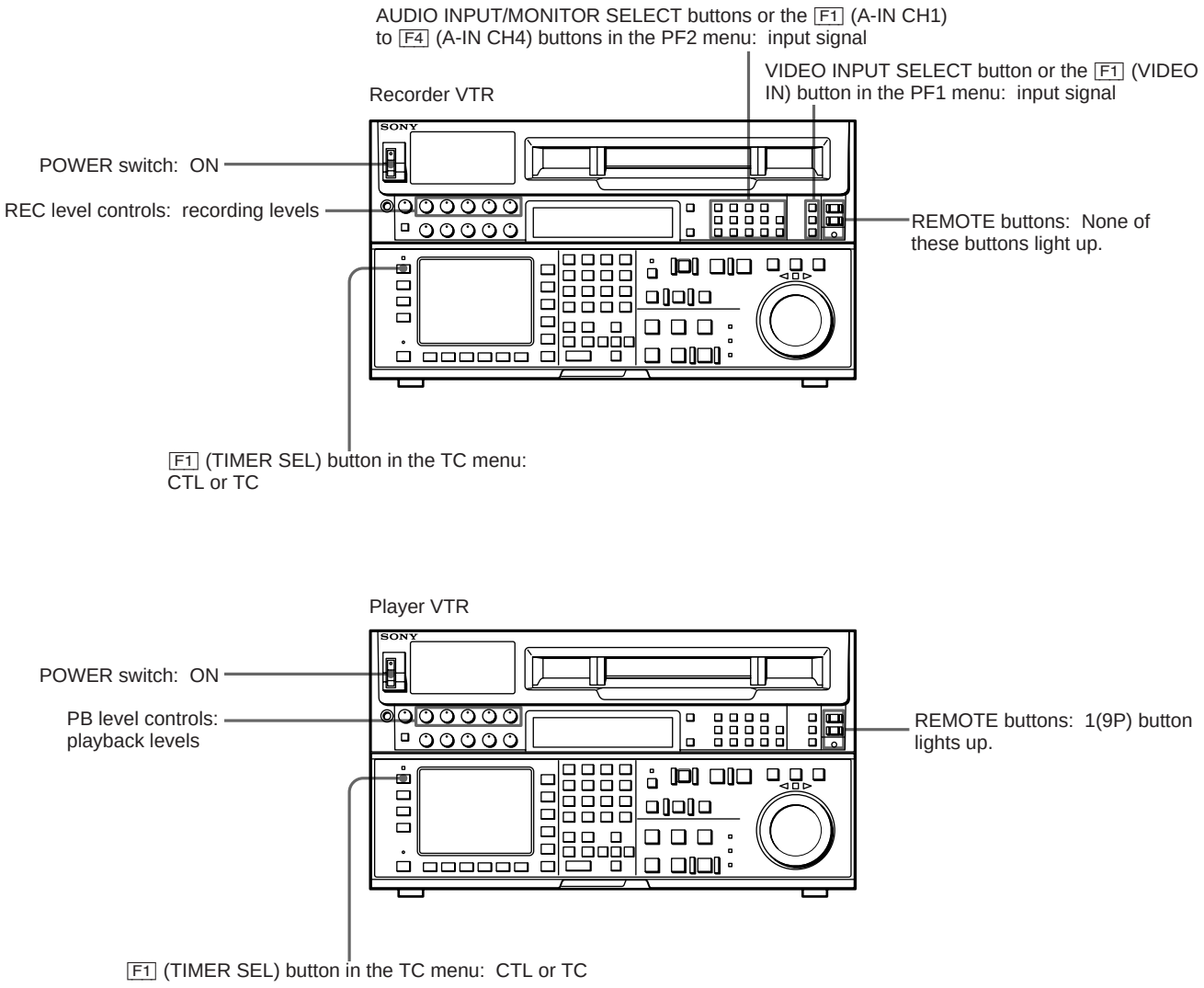
When using an editing control unit to control the VTR, set the edit delay on the control unit so that CUT-IN and CUT-OUT commands are sent to the VTR five frames ahead of the actual edit point.

Video signals output to a monitor

While in E-E mode or when playing back in edit mode, the V-sync phase of the video output is delayed 6H (on the DVW-A500/1 and 500/1) or 4H (on the DVW-A500P/1 and 500P/1) with respect to the external reference signal. You can also adjust the V-sync phase so that it is in sync with the external reference signal phase, but without affecting the video signal delay. Change the V-sync phase through 701. SELECTION OF VIDEO/SYNC DELAY in the VTR SETUP menu.

6-1-2 Setting Switches and Menus

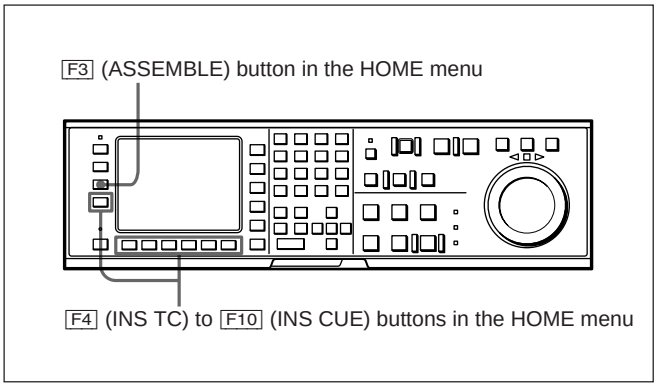
Before editing, set the following switches as shown below.


AUDIO INPUT/MONITOR SELECT buttons or the F1 (A-IN CH1) to F4 (A-IN CH4) buttons in the PF2 menu: input signal
VIDEO INPUT SELECT button or the F1 (VIDEO IN) button in the PF1 menu: input signal
Recorder VTR
POWER switch: ON
REC level controls: recording levels
REMOTE buttons: None of these buttons light up.
F1 (TIMER SEL) button in the TC menu: CTL or TC
Player VTR
POWER switch: ON
PB level controls: playback levels
REMOTE buttons: 1(9P) button lights up.
F1 (TIMER SEL) button in the TC menu: CTL or TC

Setting switches and menus

6-1-3 Selecting the Edit Mode

Select assemble or insert mode.



Selecting the edit mode

Press one of the following buttons to select the respective edit mode:

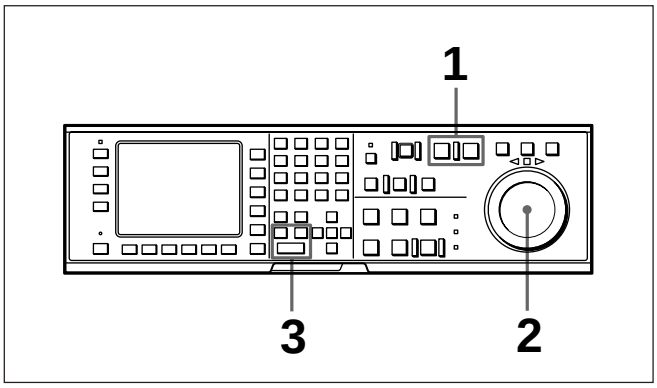
- **Assemble mode:** F3 (ASSEMBLE) button in the HOME menu
- **Insert mode:** the appropriate INSERT button in the HOME menu (F4 (INS TC), F5 (INS VIDEO), F6 (INS A-CH1), F7 (INS A-CH2), F8 (INS A-CH3), F9 (INS A-CH4), F10 (INS CUE))

6-1-4 Setting Edit Points

This section describes how to set edit points (IN and OUT points). In insert mode, a technque called split editing allows you to set edit points separately for video and audio.

Positioning and setting edit points

To position and set edit points, follow the procedure below.



Positioning and setting edit points

1 Press the RECORDER or PLAYER button to select the VTR for which edit points are to be set. The button lights up.

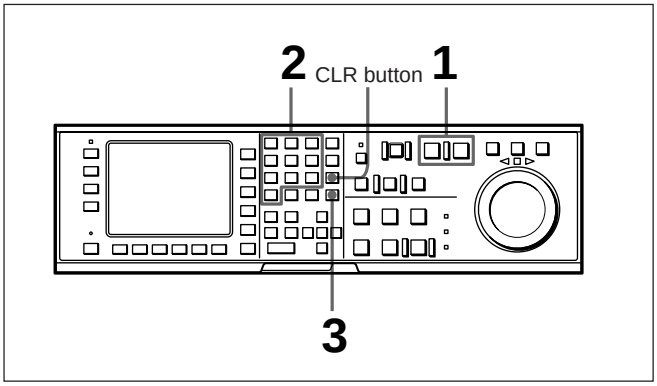
2 Rotate the search dial in jog or shuttle mode to position the edit point.

For details on jog or shuttle playback, refer to "5-4-2 Variable Speed Playback in Jog/Shuttle/Variable Modes" on page 5-8.

3 Press the IN (or OUT) button while holding down the ENTRY button.
The time data for the IN (or OUT) point appears in the menu display.

4 Repeat Steps **1** to **3** to set the remaining edit points.
When IN points are set for both the recorder and player VTRs, the PREVIEW and AUTO EDIT buttons flash to show that the VTR is ready for preview or edit.

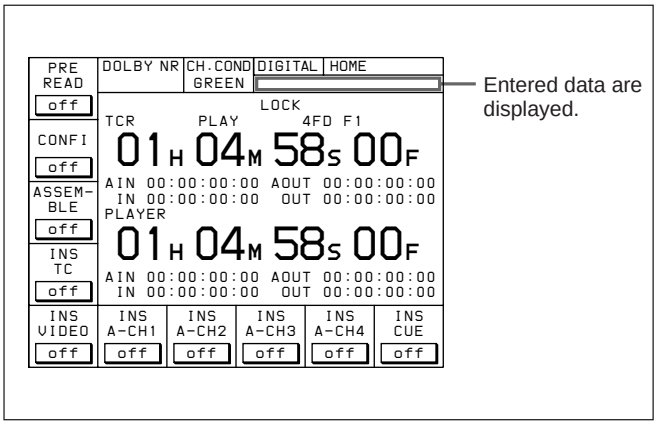
Setting edit points with the numeric buttons



Setting edit points with the numeric buttons

1 Press the RECORDER or PLAYER button to select the VTR for which edit points are to be set. The button lights up.

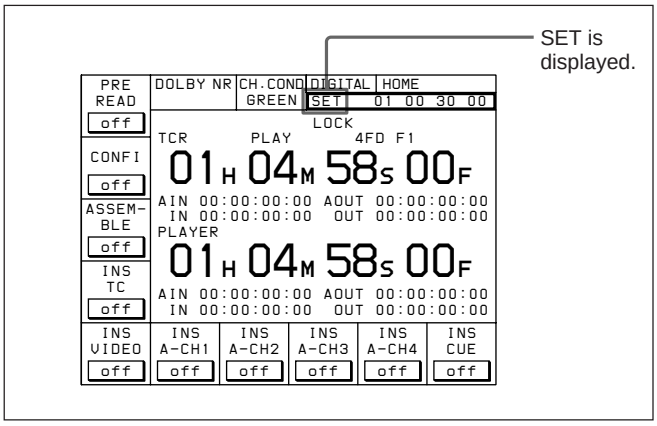
2 Enter the edit point data with the numeric buttons. For example, to enter 01H00M30S00F, press 1, 0, 0, 3, 0, 0, 0. (The leading 0 is not required. When the entered value is less than eight digits, the leading digit(s) are set to 0 when you press the SET button.)



To delete entered data

Press the CLR button.

3 Press the SET button to set the input data.



4 Press the IN (or OUT) button.
The time data for the IN (or OUT) point appears in the menu display.

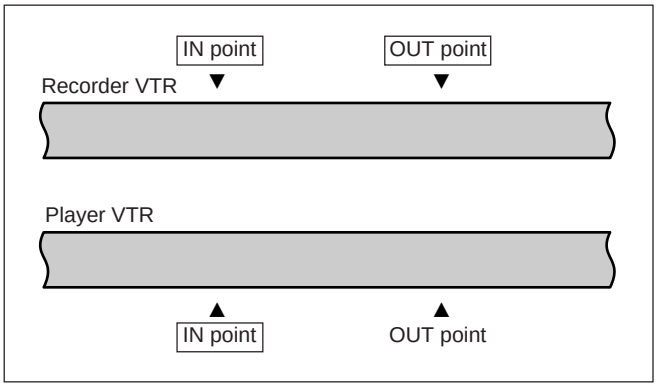
Note

If you set four or more points for the recorder and player VTRs, a message will appear on the menu display, indicating that editing is impossible. Delete all unnecessary edit points by pressing the IN (OUT) button while holding down the CLR button.

For details, refer to "Deleting edit points" on page 6-9.

About automatic edit point setting

Editing requires a total of four edit points: IN and OUT points for both the recorder and player VTRs. However, as soon as you set three edit points, the VTR automatically sets the fourth point.
In the figure below, the points enclosed in a box have been set manually, while the OUT point for the player VTR has been set automatically.



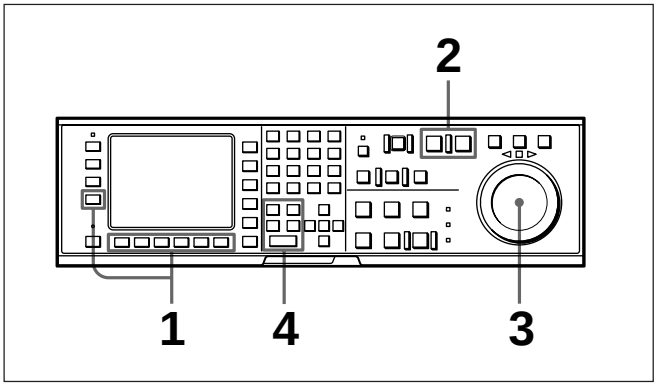
Automatic edit point setting

Whether set manually or automatically, all edit points can be changed or deleted at any time.

Split editing

Positioning and setting edit points

Split editing allows you to set edit points separatelty for video and audio. Set audio edit points with the AUDIO IN/OUT buttons and video edit points with the IN/OUT buttons.
Split editing, however, can only be done when the recorder VTR is in insert mode.



Positioning and setting edit points

1 Press the appropriate INSERT button in HOME menu (F4 (INS TC), F5 (INS VIDEO), F6 (INS A-CH1), F7 (INS A-CH2), F8 (INS A-CH3), F9 (INS A-CH4), F10 (INS CUE)).

2 Press the RECORDER or PLAYER button to select the VTR for which edit points are to be set. The button lights up.

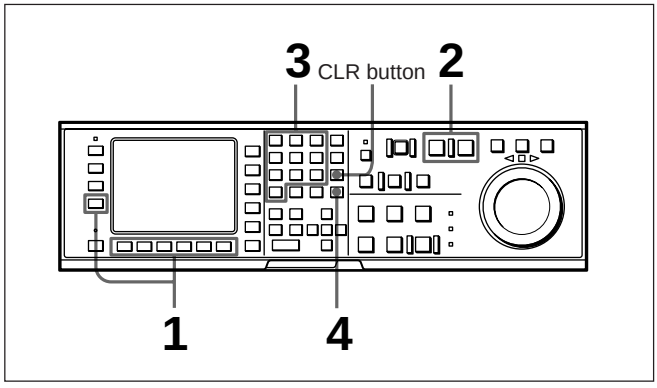
3 To locate the edit points, rotate the search dial in jog or shuttle mode.

For details on jog/shuttle/variable playback modes, refer to "5-4-2 Variable Speed Playback in Jog/Shuttle/ Variable Modes" on page 5-8.

4 Press the IN (OUT, AUDIO IN or AUDIO OUT) button while holding down the ENTRY button.

5 Repeat Steps **2** to **4** to set the remaining edit points.

Setting edit points with the numeric buttons

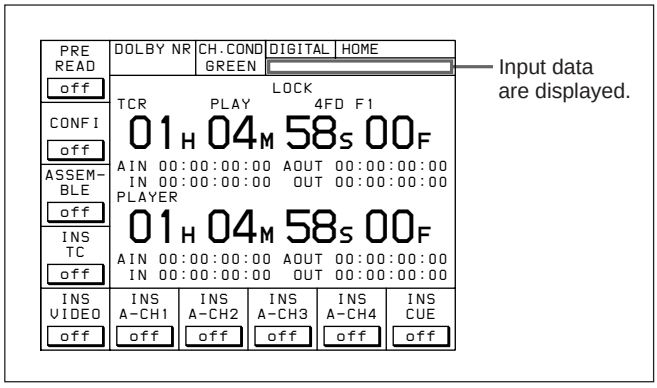


Setting edit points with the numeric buttons

1 Press the appropriate INSERT button in HOME menu (F4 (INS TC), F5 (INS VIDEO), F6 (INS A-CH1), F7 (INS A-CH2), F8 (INS A-CH3), F9 (INS A-CH4), F10 (INS CUE)).

2 Press the RECORDER or PLAYER button to select the VTR for which edit points are to be set. The button lights up.

3 Enter the edit point data with the numeric buttons. For example, to enter 01H00M30S00F, press 1, 0, 0, 3, 0, 0, 0. (The leading 0 is not required. When the entered value is less than eight digits, the leading digit(s) are set to 0 when you press the SET button.)

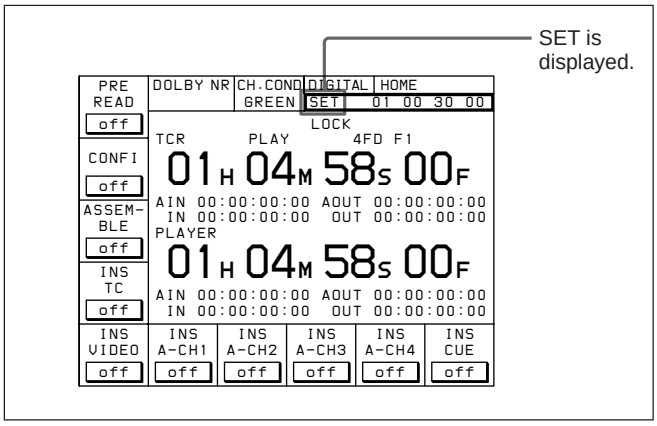


To delete entered data

Press the CLR button.

(Continued)

4 Press the SET button to set the input data.



5 Press the IN (OUT, AUDIO IN or AUDIO OUT) button.
The time data for the IN (OUT, AUDIO IN or AUDIO OUT) point appears in the menu display.

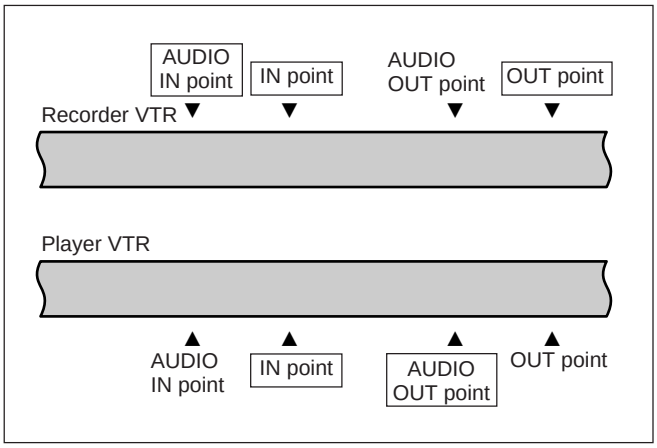
Note

During split editing, if you set six or more points for the recorder and player VTRs, the time data for the edit points flash, indicating that editing is impossible. Delete all unnecessary edit points by pressing the IN, OUT, AUDIO IN, or AUDIO OUT button while holding down the CLR button.

For details, refer to "Deleting edit points" on page 6-9.

About automatic split edit point setting

Split editing requires a total of eight edit points: four edit points for video editing (IN and OUT points for both the recorder and player VTRs) and four edit points for audio editing (AUDIO IN and OUT points for both the recorder and player VTRs). However, as soon as you set five edit points, the VTR automatically sets the remaining three points. For example, if you set three edit points for video (or audio) and two for audio (or video), the remaining three points are automatically set, regardless of whether these points are for the recorder or player.
In the following example, the points enclosed in a box have been set manually and the AUDIO OUT point for the recorder VTR, and the AUDIO IN and OUT points for the player VTR have been set automatically.
Note that whether set manually or automatically, all edit points can be changed or deleted at any time.



Automatic split edit point setting

You can select audio cut-in, crossfade, and fade in/out in edits, as well as their duration, by VTR SETUP menu.

For details, refer to the menu items in the 300 range in the VTR SETUP menu.

When the AUDIO IN point is not set for insert editing of audio only

As long as the AUDIO OUT point is set, the VTR is ready for preview or editing. If the AUDIO IN point has not been set, the current tape address is automatically set as the AUDIO IN point.

Using a VTR without the split editing function

If the player VTR does not support the separate setting of edit points for video and audio, you can set AUDIO IN and AUDIO OUT points on the recorder and three video edit points to enable split editing.

6-1-5 Confirming Edit Points

You can confirm the duration between two edit points in the display.

Displaying the duration between two edit points

The following six kinds of duration can be displayed in the time data display window:

- Between IN and OUT points
- Between IN and AUDIO OUT points
- Between IN and AUDIO IN points
- Between OUT and AUDIO OUT points
- Between OUT and AUDIO IN points
- Between AUDIO IN and AUDIO OUT points

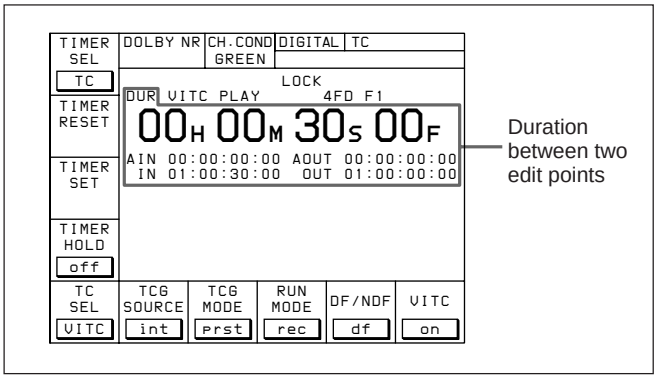
The displayed duration differs for each of the following cases:

- When two edit points are set: duration between the two points
- When only one of the edit points is set: duration between the set edit point and the current tape address
- When no edit points are set: duration of the previous edit section

To display the duration, follow the procedure below.

1 Press the RECORDER or PLAYER button to select the VTR for which you want to confirm a duration.
The button lights up.

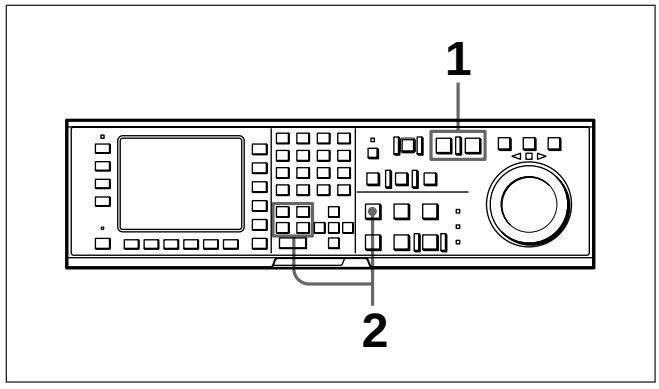
2 Hold down any two IN, OUT, AUDIO IN, or AUDIO OUT buttons.
The duration between the points corresponding to the two buttons is displayed. The value can be negative.



Displaying the duration between two edit points

6-1-6 Cuing Up and Prerolling

You can preroll the tape to a point prior to the edit start point (preroll point), or cue up the tape to any edit point.
When prerolling the tape during split editing, the VTR regards the earliest IN or AUDIO IN point as the edit start point.
Follow the procedure below to cue up or preroll the tape.



Cuing up and prerolling

1 Press the RECORDER or PLAYER button to select the VTR which you want to operate.
The button lights up.

2 • To cue up the tape to an edit point
Press the IN, OUT, AUDIO IN, or AUDIO OUT button while holding down the PREROLL button.
The tape moves to the edit point corresponding to the button, then stops.

• To preroll the tape
Press the PREROLL button.
The tape is rewound to a point five seconds prior to the edit start point.

Note

When the F1 (TIMER SEL) button in the TC menu is set to CTL, cuing up is slightly slower than in TC mode. This is to maintain the accuracy of the CTL signals.
You can set up the VTR so that priority is placed on cuing accuracy or speed. Change the VTR setting through 404. CUEUP BY TC and 405. CUEUP BY CTL in the VTR SETUP menu.

Changing the preroll time

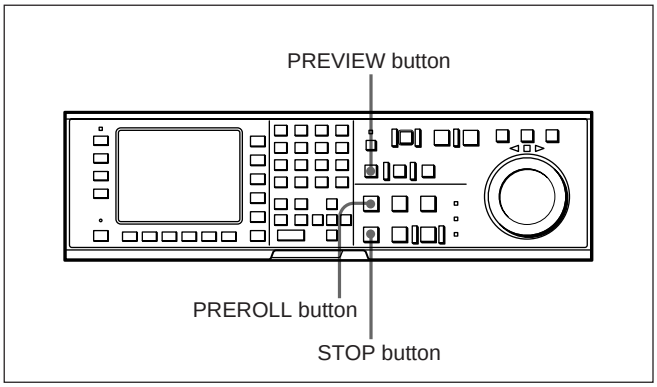
The preroll time is factory set to 5 seconds, but can be set to any time between 0 and 30 seconds, in 1-second steps.

For details, refer to "4-2-8 Setting the Preroll Time (P-ROLL TIME)" on page 4-16.

When changing the preroll time, set it so that the recorded section prior to the edit start point is longer than the preroll time.
The preroll time used in automatic editing is the preroll time set for the recorder.

6-1-7 Previewing

When all necessary edit points have been set, the PREVIEW button flashes to indicate that the VTR is ready for preview.



Previewing

Press the PREVIEW button to preview the results of the edit.
During previewing, the PREVIEW button lights up.
After previewing, correct the edit points as required, then do the preview again.

For details on modifying edit points, refer to "6-1-8 Modifying Edit Points" on page 6-9.

To stop previewing

Press the STOP button.
The tape stops immediately.

To rewind the tape to the preroll point

Press the PREROLL button.

To rewind the tape to the edit point

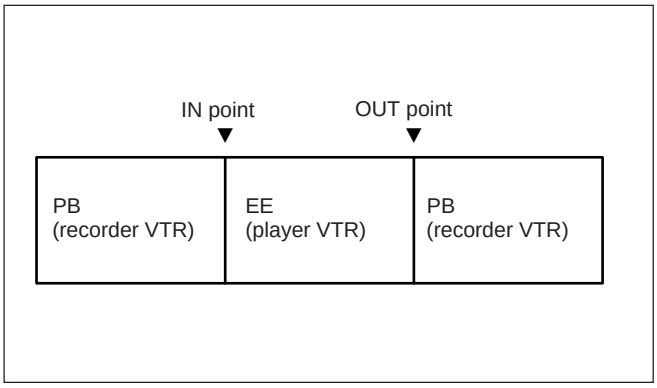
Press the PREROLL button together with the button corresponding to the edit point.

Monitoring signals during previewing

During previewing, you can monitor the following video and audio signals on a monitor connected to the recorder VTR:

- Between preroll and IN points: Playback signal of the recorder VTR can be monitored.
- Between IN and OUT points: Playback signal of the player VTR can be monitored in E-E mode.
- Between OUT and post-roll points: Playback signal of the recorder VTR can be monitored.

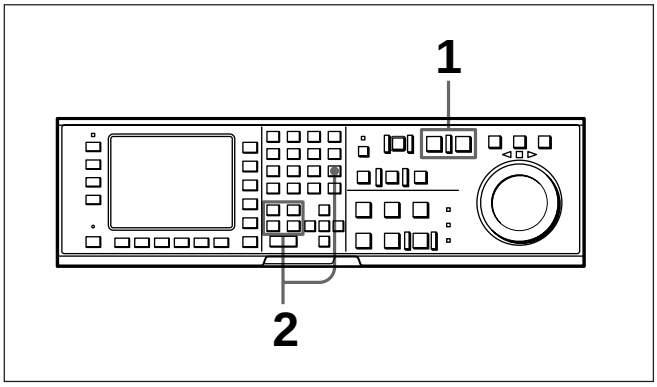
This may be illustrated as shown below:



6-1-8 Modifying Edit Points

If an edit point is incorrectly set, for example, if an OUT point is located before an IN point, or the length of an edit section is different for the recorder and player VTRs, the time data for the incorrectly set edit point flash indicating that the VTR cannot perform editing or previewing. In this case, delete the edit point, then set a new one correctly.
You can also move an edit point position in one-frame units.

Deleting edit points

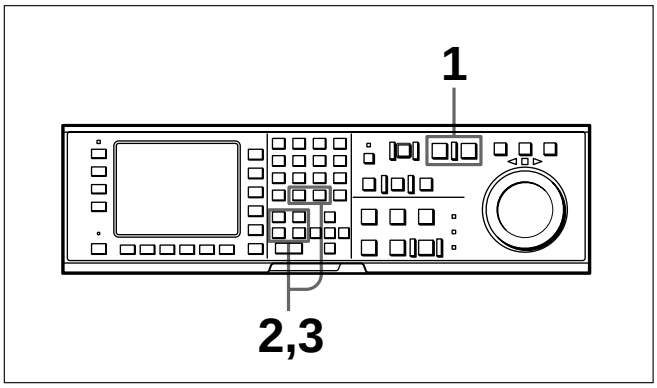


Deleting edit points

1 Press the RECORDER or PLAYER button to select the VTR on which to perform the edit point deletion.
The button lights up.

2 Press the IN, OUT, AUDIO IN or AUDIO OUT button while holding down the CLR button to delete the corresponding edit point.
The edit point is deleted and --:--:--:-- appears in the menu display.

Moving an edit point position one frame at a time



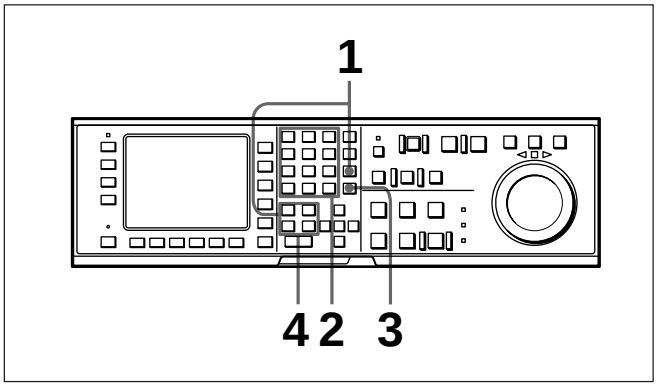
Moving an edit point position one frame at a time

1 Press the RECORDER or PLAYER button to select the VTR on which to modify the edit point. The button lights up.

2 Press the + or – button while holding down the IN, OUT, AUDIO IN or AUDIO OUT button. Pressing the + or – button moves the edit point one frame forward or backward, respectively.

3 After making the modification, release the respective edit point button that you have been holding down (IN, OUT, AUDIO IN, or AUDIO OUT button).

Moving an edit point position with the numeric buttons



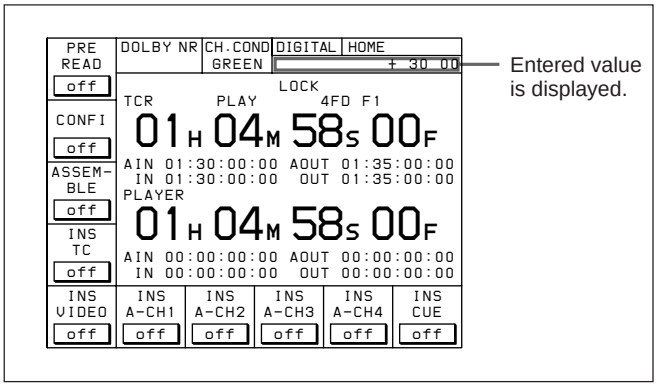
Moving an edit point position with the numeric buttons

1 Press the IN, OUT, AUDIO IN, or AUDIO OUT button while holding down the RCL button. Time data for the edit point appears in the data entry window.

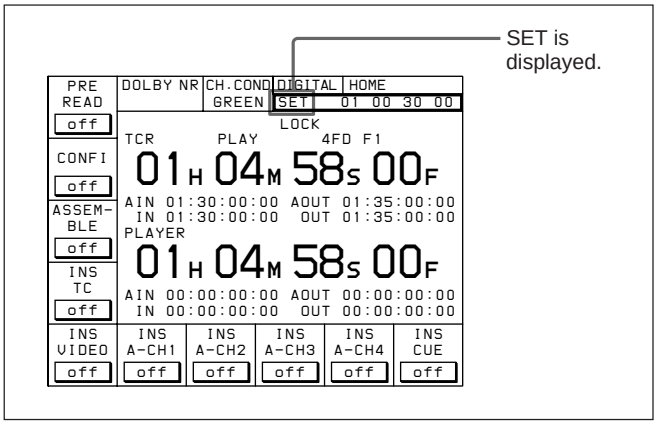
2 Press the + or – button, then use the numeric buttons to enter the value to be added or subtracted.

To cancel the entered value

Press the CLR button.



3 Press the SET button.
The result of the addition or subtraction is entered.



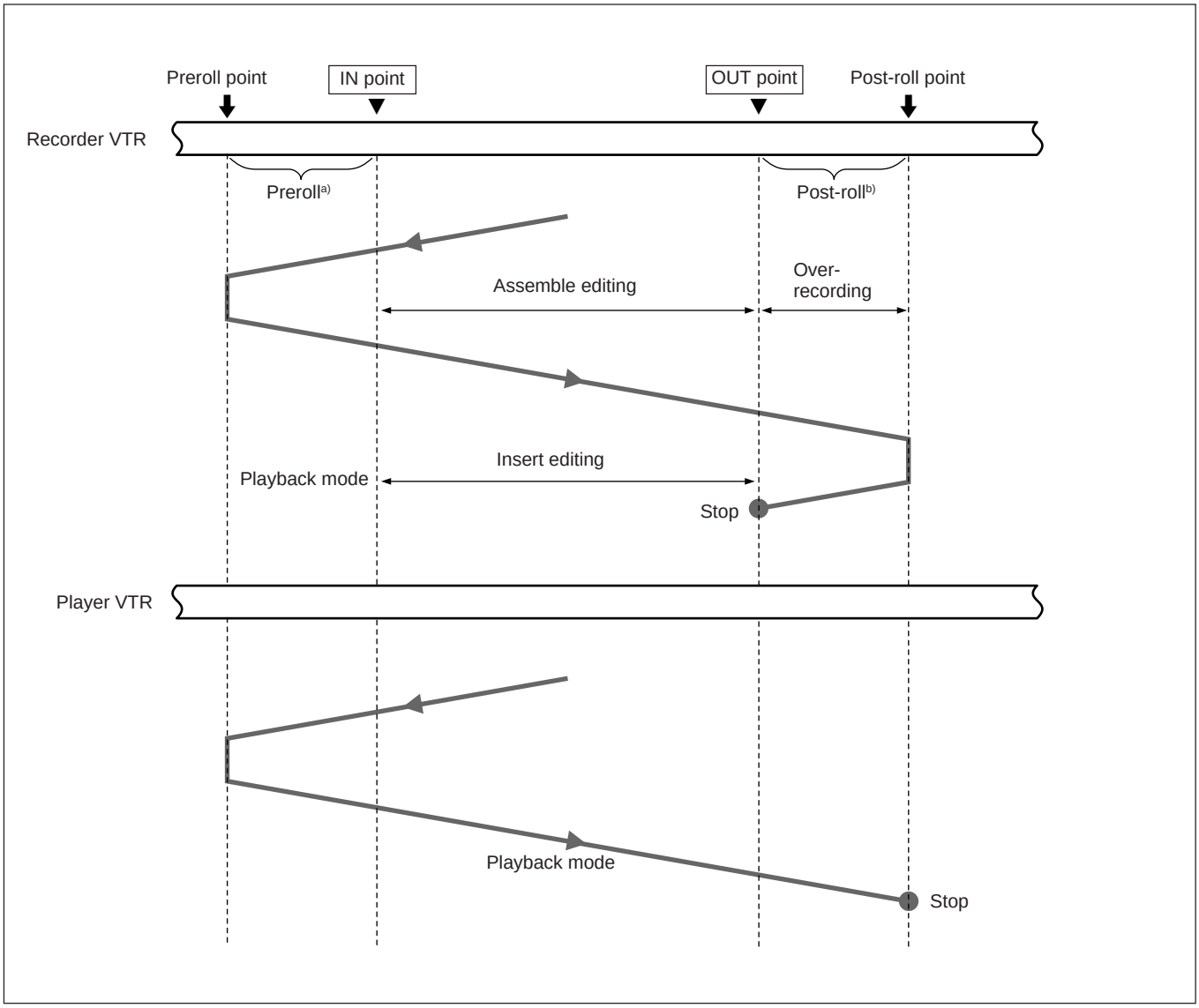
4 Press the IN, OUT, AUDIO IN, or AUDIO OUT button.
The modified time data for the edit point appears in the display.

6-1-9 Performing Automatic Editing

Overview

Once you have set the necessary edit points, the AUTO EDIT button flashes to show that the VTR is ready for automatic editing.

During automatic editing, the tape in the recorder VTR and the player VTR move as shown in the diagram below.



Tape movement during automatic editing

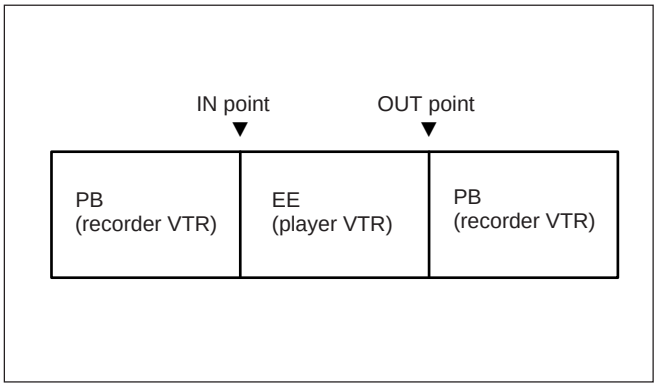
a) Preroll time: Factory-set to 5 seconds. Can be set from 0 to 30 seconds, in 1-second steps, through the SET UP menu.
b) Post-roll time: 2 seconds.

Monitoring signals during editing

During editing, you can monitor the following video and audio signals on a monitor connected to the recorder VTR.

- Between preroll and IN points: Playback signal of the recorder VTR can be monitored.
- Between IN and OUT points: Playback signal of the player VTR can be monitored in E-E mode.
- Between OUT and post-roll points: Playback signal of the recorder VTR can be monitored.

The video and audio signals that can be monitored are shown in the diagram below.



Monitoring signals during editing

In CONFI mode, you can monitor video and audio signals that are just being edited.
Through a menu setting, you can also monitor signals between preroll and postroll points, including portions between IN and OUT points, through the CONFI (confidence) heads during editing. Set the F2 (CONFI) button in HOME menu to on.
Use 316. CONFIDENCE PB MODE in the VTR SETUP menu to select the CONFI playback mode.

Monitoring video and audio signals of the recorder and player VTRs on a single monitor

The following procedure allows you to perform editing effectively even when using only one monitor.

1 Connect the recorder VTR to the monitor.

2 Set 008. MONITOR SEL in the VTR SETUP menu to AUTO.

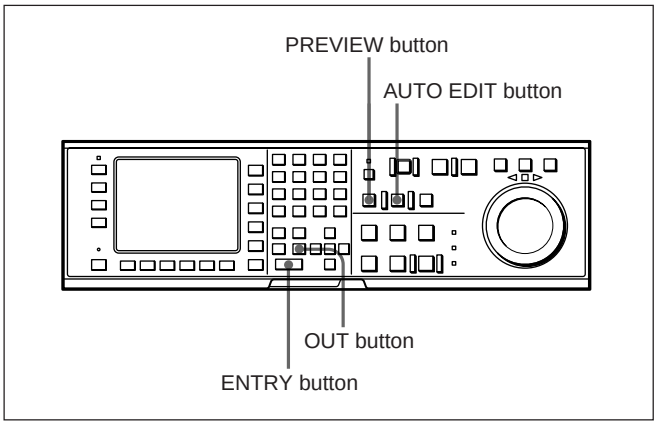
3 Press the PLAYER button on the recorder VTR to place the recorder into E-E mode.
Playback signals from the player VTR are output to the monitor.

Note

Insert editing requires that CTL signals are recorded onto the tape in the recorder VTR. Any sections of the tape onto which CTL signals have not been recorded cannot be used for insert editing.

Performing automatic editing

Press the AUTO EDIT button to perform automatic editing.
The AUTO EDIT button lights up during automatic editing, then turns off when it ends.



Performing automatic editing

To stop automatic editing

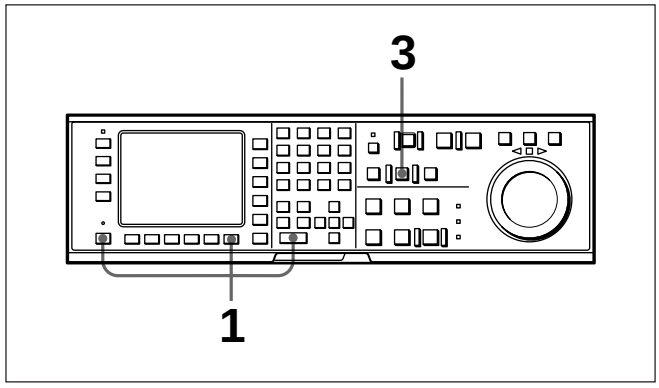
Press the OUT button while holding down the ENTRY button.
The point where the buttons are pressed is treated as an OUT point and editing stops.

To confirm the results of the editing

Press the REVIEW button to confirm the edit results. When the preview ends, the tape rewinds to the OUT point, then stops.

Modifying edit points for automatic editing later

After you perform automatic editing, the time data of IN, OUT, AUDIO IN or AUDIO OUT points remain stored in memory. The stored data can be later used to modify edit points or to execute automatic editing again.
Follow the procedure below to modify edit points after executing automatic editing.



Modifying edit points for automatic editing later

1 In HOME menu, press the ALT button, and then the F10 (LAST EDIT) button.
The edit points used in the last automatic edit are restored.

2 Modify the edit points.

For details on modifying edit points, refer to "6-1-8 Modifying Edit Points" on page 6-9.

3 Press the AUTO EDIT button.
The VTR performs automatic editing.

6-2 Advanced Automatic Editing

This section describes the following advanced editing methods:
- DMC editing
- Quick editing
- Consecutive editing
- Preread editing

6-2-1 Performing DMC Editing

If your player VTR has DT® (Dynamic Tracking) capability, you can perform variable speed editing by controlling the playback speed from the lower control panel. This type of editing is called DMC editing.

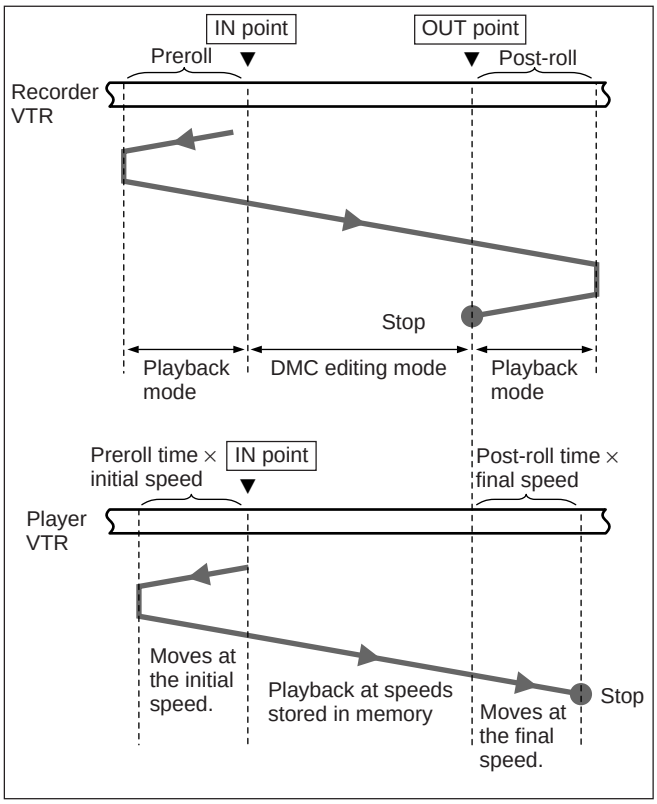
Overview of DMC editing

Requirements for DMC editing

- DMC editing may be done during assemble or insert editing, but not during split editing.
- The player VTR must support DT playback.

Tape movement during DMC editing

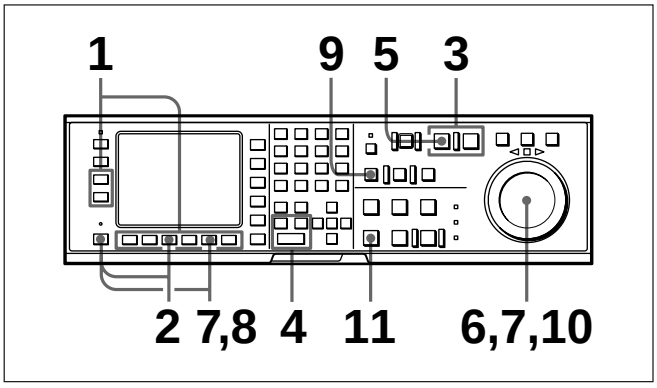
During DMC editing, the tape moves as shown in the diagram below.



Tape movement during DMC editing

Setting edit points and playback speed

Use the procedure below to set edit points and playback speeds for DMC editing.



Setting edit points and playback speed

1 Press the F3 (ASSEMBLE) button in the HOME menu, or press the respective INSERT button (F4 (INS TC), F5 (INS VIDEO), F6 (INS A-CH1), F7 (INS A-CH2), F8 (INS A-CH3), F8 (INS A-CH4) or F10 (INS CUE) button) to select the edit mode that you want.

2 Press the ALT button, then the F7 (DMC) button so that the button lights up.
The VTR enters DMC editing mode.

3 Press the RECORDER or PLAYER button to select the VTR to be operated.
The button lights up.

4 Press the IN or OUT button while holding down the ENTRY button to set an edit point.

Note

You cannot set an OUT point for the player VTR for DMC editing.

5 Press the PLAYER button.
The button lights up.

6 Press the search dial to enter shuttle mode.
The SHUTTLE button lights up.

7 Set the initial playback speed by rotating the search dial while holding down the F7 (DMC) button in the HOME menu.
The display shows the set speed.
If you wish to set the initial speed to normal speed, press the PLAY button.

8 Release the F7 (DMC) button in HOME menu after setting the initial speed.

9 Press the PREVIEW button.
The tapes in both VTRs are prerolled, then the tape in the recorder VTR runs at normal speed, and the tape in the player VTR runs at the initial speed.

10 When the ■ indicator appears indicating that the IN point has been passed, rotate the search dial to the desired playback speed(s).
The varying playback speeds are stored in memory while the ■ indicator appears in the display.
When the tape passes the OUT point, the ■ indicator goes off to indicate that memorization of the varying playback speeds has been completed.

11 Press the STOP button.

If the ■ indicator goes off before the tape passes the OUT point

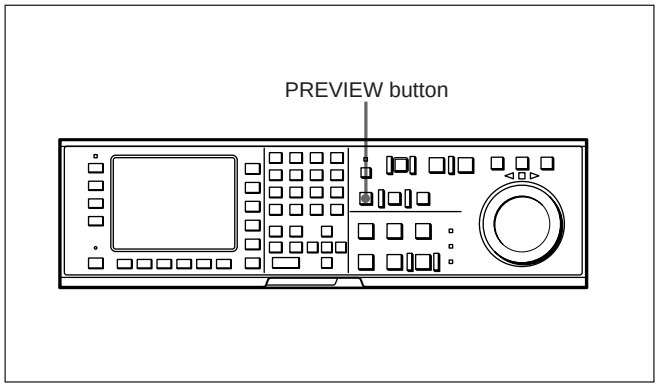
The VTR has reached its storage capacity of 120 seconds and cannot store any more playback speed variations.

To exit DMC editing mode

Press the ALT/F7 (DMC) button in HOME menu while holding down the CLR button.

Performing DMC editing

After storing the playback speed(s) in memory in preview mode, press the AUTO EDIT button to perform DMC editing.
DMC editing is performed at the playback speed(s) stored in memory.



Performing DMC editing

To confirm the results of DMC editing

Press the PREVIEW button.

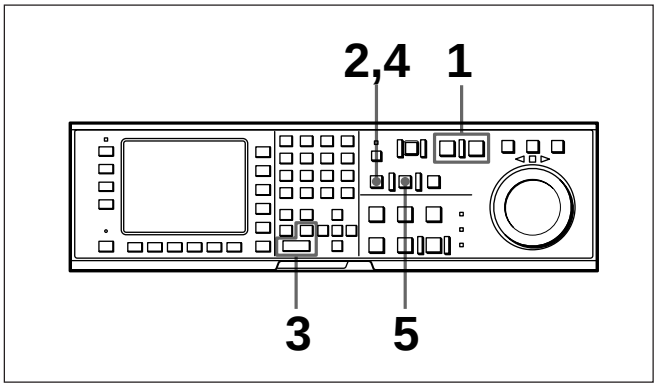
Notes on controlling VTRs with DT® heads

Shuttle mode: Noiseless playback within a range of –1 to +3 times normal speed in 12 steps is possible. In this mode, when the playback speed exceeds the noiseless playback range, block noise appears in the video output. Note also that the noiseless playback range may vary, depending on specifications of the VTR being used.

Variable mode: Noiseless playback within a range of –1 to +3 times normal speed in 54 steps is possible. You cannot, however, vary speed beyond the noiseless playback range. Note also that the noiseless playback range may vary, depending on specifications of the VTR being used.

6-2-2 Performing Quick Editing

After selecting the edit mode, quick editing can save you time by allowing you to set edit points and preview the results at the same time.
Do quick editing as follows:



Performing quick editing

1 Press the PLAYER or RECORDER button to select the VTR to be operated, locate the position for the IN point on the tape in the respective player and recorder VTR, then stop the tape at that position.

2 Press the PREVIEW button to perform previewing. The points selected in Step **1** are set as IN points and the IN point is displayed on both VTRs.

3 When the tape reaches the position that you want for an OUT point, press the OUT button while holding down the ENTRY button.
The OUT point is set, and both player and recorder VTRs stop two seconds later.

4 Perform previewing again to check the position of the edit points and, if necessary, modify the edit points.

5 Press the AUTO EDIT button.
Quick editing starts.
When quick editing ends, the recorder VTR stops at its respective OUT point, and the player VTR stops two seconds after its respective OUT point.

For even quicker editing

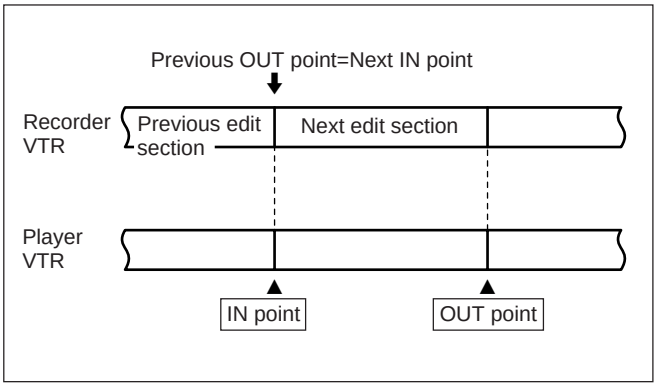
1 Press the PLAYER or RECORDER button to select the VTR to be operated, locate the position for the IN point on the tape in the respective player and recorder VTR, then stop the tape at that position.

2 Press the AUTO EDIT button to start editing.

3 While viewing the monitor, press the OUT button while holding down the ENTRY button at the point where you want to stop editing.
The point at which editing started becomes the IN point, and point where editing stopped becomes the OUT point.

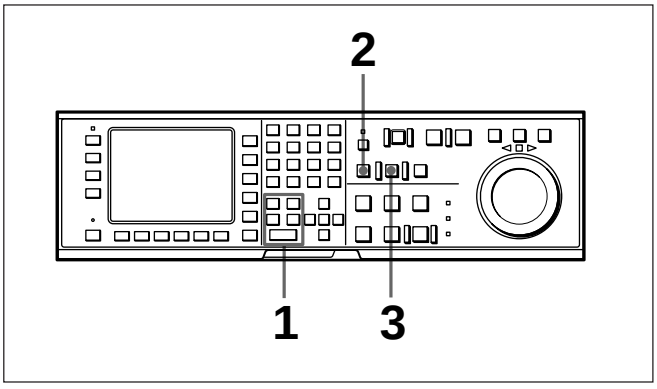
6-2-3 Performing Consecutive Editing

After performing automatic editing, the tape in the recorder VTR is automatically rewound to the OUT point. From then, you can set IN and OUT points only for the player VTR to do consecutive edit operations. This is called consecutive editing. The OUT point for the recorder VTR will be the IN point for the next edit.



Consecutive editing

Follow the procedure below to perform consecutive editing.



Performing consecutive editing

1 Set IN and OUT points for the player VTR.
The recorder VTR automatically sets the last OUT point as the new IN point.

2 Press the PREVIEW button to preview.

3 Press the AUTO EDIT button.
Automatic editing starts.
When editing ends, the recorder VTR stops at the OUT point and the player VTR stops two seconds after the OUT point.
Repeat Steps **1** to **3** to perform consecutive editing.

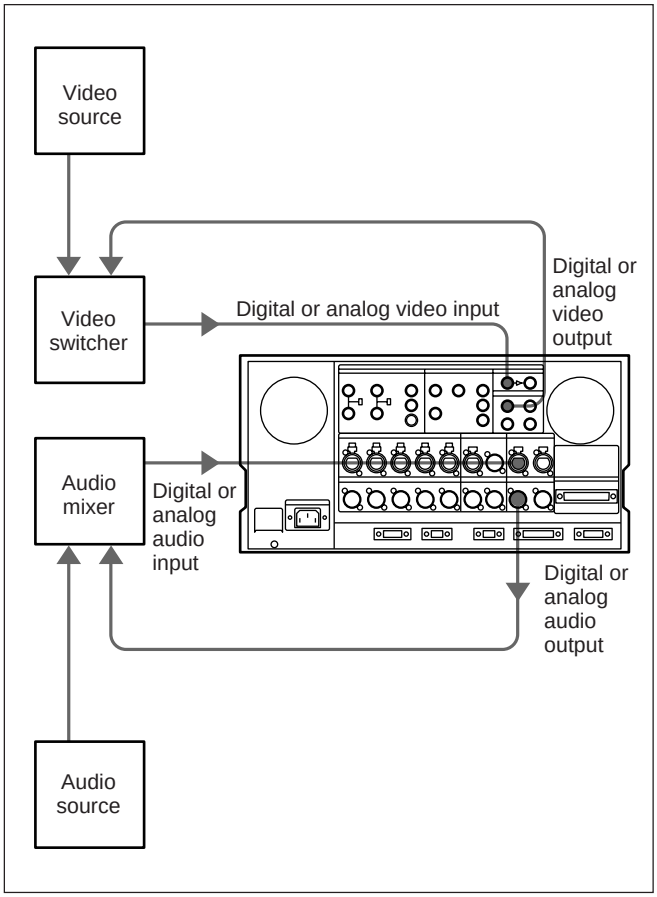
To stop consecutive editing

Press the OUT button while holding down the ENTRY button.

6-2-4 Performing Preread Editing

Video and digital audio signals already recorded on the tape can be used as an edit source for insert editing. This type of editing is called preread editing, as the VTR uses preread heads to read signals in advance. Signals that are read in advance can be sent to mixers for mixing, then recorded to the original channels or other digital audio channels.
The preread editing settings are performed with the F1 (PRE READ) button in the HOME menu.

For details on the settings, refer to "4-2-1 Setting the Preread Function (PRE READ)" on page 4-14.



Preread editing

Notes

- In preread editing, if an input video signal is used as the reference signal for the output video signal, oscillation may occur because of loop-closing. To avoid this, select the external reference signal for preread editing by setting the item 309. SERVO REFERENCE SELECT in the VTR SETUP menu to ext.
- When preread mode is selected, shifting of the VTR to E-E mode is disabled in all operation modes to prevent oscillation caused by loop-closing. If preread mode is deselected while a loop between the input and output of the same channel exists, E-E signals are output and oscillation occurs. To prevent oscillation, do the procedure below to select PB mode for both the video and digital audio channels before the start of preread editing.

1 Press the ALT button, then press the F2 (PB/EE) button in HOME menu to select PB.

2 Press the ALT button again, and press the F1 (PRE READ) button repeatedly while holding down the SFT button to select video, audio or a/v.

3 Make the required connections for preread editing.

4 Perform preread editing after selecting the insert editing mode.

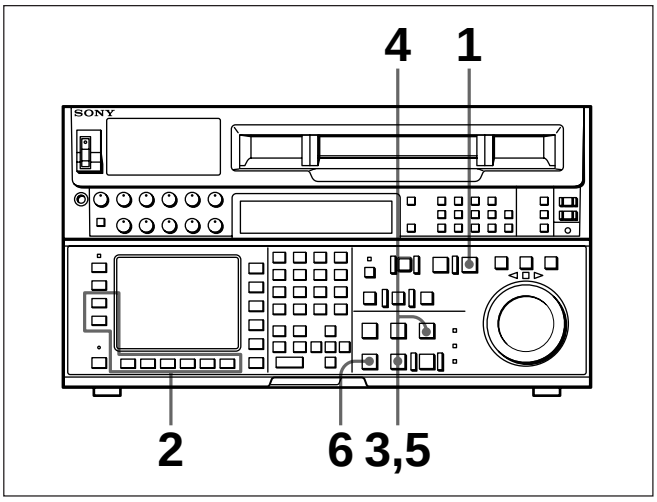
5 After preread editing, undo all the connections used for the preread editing.

6 Press the F1 (PRE READ) button while holding down the SFT button to select off.

7 Check that no loop connections remain.

6-3 Manual Editing

Follow the procedure below to perform manual editing.



Manual editing

1 After pressing the RECORDER button, enter jog or shuttle mode to position the tape at a place a few seconds before the position at which you want to set an edit point.

2 Press the F3 (ASSEMBLE) button in the HOME menu or press the respective INSERT button (F4 (INS TC), F5 (INS VIDEO), F6 (INS A-CH1), F7 (INS A-CH2), F8 (INS A-CH3), F9 (INS A-CH4) or F10 (INS CUE) button) to select the edit mode that you want.

3 Press the PLAY button.
Playback starts.

4 Press the PLAY button while holding down the EDIT button at the point where you want to start editing (IN point).
Editing starts.

5 Press the PLAY button where you want to end editing (OUT point).
Editing ends, but the tape continues to run in playback mode.

6 Press the STOP button to stop the tape.

Notes

- Noise will appear on the picture at the IN or OUT point if you start editing while the VTR is stopped, or if you stop editing by pressing the STOP button.
- To ensure a stable picture, start playback at least two seconds before the IN point.

7-1 Head Cleaning

Use the BCT-5CLN Cleaning Cassette to clean the heads.
Read the instructions included with the cleaning cassette carefully, as improper usage can damage the heads.
Follow the procedure below to clean the heads.

1 Insert the cleaning cassette.

2 Press the EJECT button simultaneously with the PLAY button.
Head cleaning starts.
After head cleaning continues for five seconds, the cleaning cassette is automatically ejected.

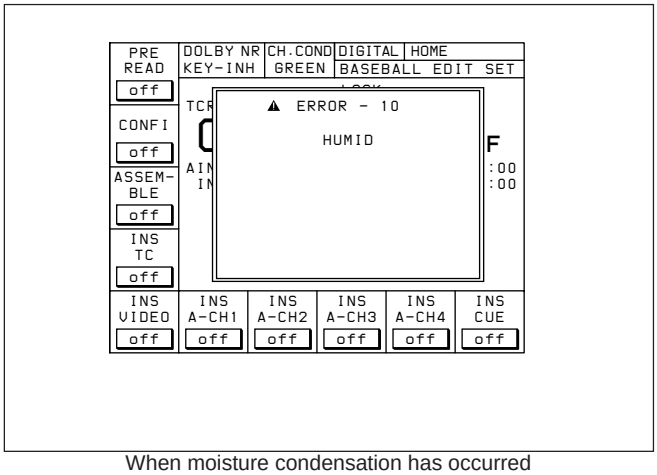
Notes

- When not using the automatic eject method above with the DVW-A500/1 series, be sure to eject the cleaning cassette after cleaning not to damage the heads.
- When cleaning the heads of the DVW-500/1 series, perform Step **2** immediately after inserting the cleaning cassette.
  If you do not, the cassette will be ejected after two or three seconds and no head cleaning will be done.

7-2 Moisture Condensation

If you suddenly move the VTR from a cold location to a warm one, or use the VTR in a very humid place, moisture in the air can form on the head-drum or tape guide. This is called moisture condensation. If you play a tape under these conditions, the tape may adhere to the drum where moisture has collected and become damaged.

If moisture condenses on the head-drum while you are operating the VTR, the error message “ERROR-10” appears in the time data display section.



When moisture condensation has occurred

When this error message appears, the drum and capstan motors stop and the cassette is automatically ejected. The drum then starts to rotate again to dry the surface of drum.
Once the moisture has evaporated, the error message disappears.

If “ERROR-10” appears immediately after turning the VTR on

Leave the VTR turned on and wait until the error message goes off. Inserting a cassette is not possible while the message is on.
When the error message disappears, you can use the VTR.

If you move the VTR from a cold to a warm location

Leave the VTR turned off for about ten minutes since some time is needed for the condensation-detection mechanism to work.

Specifications

General

Power requirements
100 to 240 V AC ±10%, 50/60 Hz
Power consumption
DVW-A500/1 and A500P/1: 300 VA (240 W)
DVW-500/1 and 500P/1: 270 VA (220 W)
Operating temperature
+5°C to +40°C (+41°F to + 104°F)
Storage temperature
–20°C to +60°C (–4°F to + 140°F)
Humidity 25% to 80% (relative humidity)
Mass DVW-A500/1 and A500P/1: 35 kg (77 lb)
DVW-500/1 and 500P/1: 33 kg (73 lb)
Dimensions 427 × 237 × 520 mm (w/h/d)
(16 3/4 × 9 3/8 × 20 1/2 inches)
Recording format Digital Betacam
Tape speed Digital Betacam: 96.7 mm/s
Betacam playback:
118.6 mm/s (DVW-A500/1)
101.5 mm/s (DVW-A500P/1)
Digital record/playback time
124 minutes with BCT-D124L
Analog Betacam playback time
DVW-A500/1: 90 minutes with BCT-90ML$_A$ cassette
DVW-A500P/1: 100 minutes with BCT-90ML$_A$ cassette
Fast forward/rewind time
Approx. 3 minutes with BCT-D124L
Search speed Shuttle mode:
Digital Betacam: Still to approx. ±50 times normal playback speed
Betacam playback:
Still to ±35 (for DVW-A500/1)
Still to ±42 (for DVW-A500P/1)
Variable mode:
–1 to +3 times normal playback speed
Jog mode:
0 to ±1 or ±3 times normal playback speed (selectable in VTR SETUP menu)
Dynamic Tracking range
–1 to +3 times normal playback speed
Servo lock time 0.5 seconds or less (from standby on)
Load/unload time 6 seconds or less
Recommended tapes
Digital Betacam cassette (S, L)
BCT-D6/D12/D22/D32/D40/D34L/D64L/D94L/D124L or equivalent
Betacam/Betacam SP cassette (S, L)
for playback with DVW-A500/1 and A500P/1

Digital video

Sampling frequency
Y: 13.5 MHz
R-Y/B-Y: 6.75 MHz
Quantization 10 bits/sample
Compression Coefficient recording system
Channel coding S-NRZI PR-IV
Error correction Reed-Solomon code
Error concealment Adaptive three dimensional

Digital serial input to analog component out

Bandwidth Y: 0 to 5.75 MHz ±0.5 dB
R-Y/B-Y: 0 to 2.75 MHz ±0.5 dB
S/N ratio 62 dB or more
K factor (2T Pulse)
1% or less

Analog component input to analog component output

Input A/D quantization
8 bits/sample
Bandwidth Y: 0 to 5.75 MHz +0.5 dB/–0.7 dB
R-Y/B-Y: 0 to 2.75 MHz +0.5 dB/–0.7 dB
S/N ratio 56 dB or more
K factor (2T Pulse)
1% or less
LF non-linearity 2.5% or less

Analog composite input (with optional BKDW-505/506) to analog composite output

Bandwidth	Y: 0 to 5.75 MHz +0.5 dB/–0.7 dB
S/N ratio	58 dB or more[1)]
Differential gain	2% or less
Differential phase	2° or less
Y/C delay	15 ns or less
K factor (2T Pulse)	1% or less
Output SCH phase	Based upon RS-170A/CCIR R.624-3

Digital audio (CH-1 to CH-4)

Sampling frequency	48 kHz (synchronized with video)
Quantization	20 bits/sample
Wow and flutter	Below measurable level
Headroom	20 dB (or 18 dB selectable)
Emphasis	T1=50 µs, T2=15 µs (on/off selectable in recording mode)

Analog input to output

A/D, D/A quantization	18 bits/sample
Frequency response	20 Hz to 20 kHz +0.5 dB/–1.0 dB (0 dB at 1 kHz)
Dynamic range	More than 95 dB (at 1 kHz, emphasis on)
Distortion	Less than 0.05% (at 1 kHz, emphasis on, reference level[2)])
Crosstalk	Less than –80 dB (at 1 kHz, between any two channels)

Analog audio (Cue track)

Frequency response	100 Hz to 12 kHz ±3 dB
S/N ratio	More than 45 dB (at 3% distortion level)
Distortion	Less than 2% (T.H.D at 1 kHz reference level[2)])
Wow and flutter	DVW-A500/1 and 500/1: Less than 0.2% rms DVW-A500P/1 and 500P/1: Less than 0.2% (DIN 45507 weighted)

Betacam SP playback (for DVW-A500/1 and A500P/1 only)

Video

DVW-A500/1

	Metal Tape	Oxide Tape
Bandwidth Y	30 Hz to 4.5 MHz +0.5 dB/–3.0 dB	30 Hz to 4.1 MHz +0.5 dB/–6.0 dB
Bandwidth R-Y/B-Y	30 Hz to 1.5 MHz +0.5 dB/–3.0 dB	30 Hz to 1.5 MHz +0.5 dB/–3.0 dB
S/N Ratio Y	51 dB or more	48 dB or more
S/N Ratio R-Y/B-Y	48 dB or more	45 dB or more
K factor (2T pulse)	2% or less	3% or less
LF non-linearity Y	3% or less	
LF non-linearity R-Y/B-Y	4% or less	
Y/C delay	20 ns or less	

DVW-A500P/1

	Metal Tape	Oxide Tape
Bandwidth Y	25 Hz to 5.5 MHz +0.5 dB/–3.0 dB	25 Hz to 4.0 MHz +0.5 dB/–6.0 dB
Bandwidth R-Y/B-Y	25 Hz to 2.0 MHz +0.5 dB/–3.0 dB	25 Hz to 1.5 MHz +0.5 dB/–3.0 dB
S/N Ratio Y	48 dB or more	46 dB or more
S/N Ratio R-Y/B-Y	48 dB or more	45 dB or more
K factor (2T pulse)	1.5% or less	3% or less
LF non-linearity Y	3% or less	
LF non-linearity R-Y/B-Y	4% or less	
Y/C delay	20 ns or less	

1) measured in video setup 0% mode for the BKDW-505 as well.

2) Reference level: + 4 dBm

Audio

DVW-A500/1

LNG	Metal Tape	Oxide Tape
Frequency response (at 10 dB below refernce level[a)])	50 Hz to 15 kHz +1.0 dB/–2.0 dB	50 Hz to 15 kHz ±3.0 dB
S/N Ratio (at 3% distortional level)	More than 72 dB	More than 50 dB (Dolby NR off)
Distortion (T.H.D at 1 kHz reference level[a)])	Less than 1%	Less than 2%
Wow and flutter	Less than 0.1% rms	
AFM		
Frequency response (at reference level[a)])	20 Hz to 20 kHz +0.5 dB/–2.0 dB	
S/N Ratio (at 3% distortional level)	More than 85 dB	
Distortion (T.H.D at 1 kHz reference level[a)])	Less than 0.5%	

a) Reference level: + 4 dBm

DVW-A500P

LNG	Metal Tape	Oxide Tape
Frequency response (at 20dB below peak level[a)])	50 Hz to 15 kHz +1.0 dB/–2.0 dB	50 Hz to 15 kHz ±3.0 dB
S/N Ratio (CCIR 468-3 weighted, at 3% distortional level)	More than 68 dB	More than 62 dB
Distortion (T.H.D at 1 kHz reference level[a)])	Less than 1%	Less than 2%
Wow and flutter (DIN 45507 weighted)	Less than 0.1%	
AFM		
Frequency response (at reference level[a)])	20 Hz to 20 kHz +0.5 dB/–2.0 dB	
S/N Ratio (at 3% distortional level)	More than 72 dB (CCIR 468-3 weighted)	
Distortion (T.H.D at 1kHz reference level[a)])	Less than 0.5%	

a) Reference level: +4 dBm
b) Peak level: +8 dB above reference level
Unless otherwise specified, all values in the above table were obtained by measuring analog output signals with Dolby noise reduction circuitry on.

Processor adjustment range

Video level	±3 dB/–∞ to +3 dB selectable
Chroma level	±3 dB/–∞ to +3 dB selectable
Setup/Black level	±30 IRE/±210 mV
Y/C delay	±100 ns (in Betacam playback on DVW-A500/1 and A500P/1)
Chroma phase	±30°
System phase	Sync: ±15 µs SC: ±200 ns

Input connectors

SERIAL V/A INPUT
BNC (1 with active through out)
Serial digital (270 Mbits/s)
SMPTE 259M/CCIR 656-III

ANALOG I/O VIDEO INPUT

REF.VIDEO: BNC (2 in loop through connection)
Black burst or composite sync
0.3 Vp-p, 75 Ω, Sync negative

COMPONENT: BNC (3 for 1 set)
Y: 1.0 Vp-p, 75 Ω, Sync negative
R-Y/B-Y: 0.7 Vp-p, 75 Ω, with 100% color bar for DVW-A500P/1 and 500P/1 and with 100% or 75% color bar selectable for DVW-A500/1 and 500/1

COMPOSITE: BNC (2 in loop through connection) 1.0 Vp-p, 75 Ω, Sync negative (with optional BKDW-505/506)

AUDIO INPUT (AES/EBU) CH-1/2, CH-3/4
XLR, 3-pin, female (2)
AES/EBU format, balanced

AUDIO INPUT CH-1/2/3/4/CUE
XLR, 3-pin, female (5)
LOW OFF: –60 dBu, high impedance, balanced
HIGH OFF: +4 dBu, high impedance, balanced
HIGH ON: +4 dBm,600 Ω termination, balanced

TIME CODE IN XLR, 3-pin, female (1)
0.5 to 18 Vp-p, 10 kΩ, balanced

Output connectors

SERIAL V/A OUTPUT
BNC (4 including 1 for character superimpose)
Serial digital (270 Mbits/s)
SMPTE 259M/CCIR 656-III
ANALOG I/O VIDEO OUTPUT
COMPONENT: BNC (3 for 1 set)
Y: 1 Vp-p, 75 Ω, Sync negative
R-Y/B-Y: 0.7 Vp-p, 75 Ω, with 100% color bar for DVW-A500P/1 and 500P/1 and with 100% or 75% color bar selectable for DVW-A500/1 and 500/1
COMPOSITE: BNC (3 including 1 for character superimpose)
1 Vp-p, 75 Ω, Sync negative
AUDIO OUTPUT (AES/EBU) CH-1/2, CH-3/4
XLR, 3-pin, male (2)
AES/EBU format, balanced
AUDIO OUTPUT CH-1/2/3/4/CUE
XLR, 3-pin, male (5)
+4 dBm at 600 Ω load, low impedance, balanced
TIME CODE OUT
XLR, 3-pin, male (1)
2.2 Vp-p at 600 Ω load, low impedance, balanced
PHONES JM-60 stereo phone jack
–∞ to –12 dBu at 8 Ω load, unbalanced

Remote connectors

CONTROL PANEL
D-sub 15-pin, female
REMOTE 1-IN D-sub 9-pin, female
REMOTE 1-OUT D-sub 9-pin, female
RS-232C D-sub 25-pin, female
VIDEO CONTROL
D-sub 15-pin, male (for optional BVR-50/50P)
REMOTE PARALLEL I/O (50P)
D-sub 50-pin, female (with optional BKDW-509)

Accessories supplied

AC power cord (1)
PSW 4 × 16 screws for rack mounting (4)
Operation Manual (1)
Installation Manual (1)
Installation and Maintenance Manual (1)
Maintenance Manual Part 1 (1)

Optional accessories

BKDW-505/506	Analog Composite Decoder Board (NTSC/PAL)
BKDW-507	Audio Program Play Board
BKDW-509	Parallel (50P) Interface Kit
BKDW-514	Control Panel
BVR-50/50P	TBC Remote Controller
RMM-110	Rack Mount Adaptor
ECD-3C/10C/30C	AES/EBU Digital Audio Cable
RCC-5G	9-pin Remote Control Cable
BCT-5CLN	Cleaning Cassette Tape

Design and specifications are subject to change without notice.

Glossary

AES/EBU format
A standard format for the transfer of digital audio signals. In this format, two audio signals can be input/output through one XLR-type connector.

Assemble editing
An edit mode for adding new scenes to the end of previously recorded scenes. In this mode, all video, audio, and control signals are newly recorded. Though the result is the coexistence of two different CTL signals on the tape, continuity of CTL signals at the edit points is maintained electrically.

Backspace editing
Also called phase matching. During backspace editing, the VTR automatically rewinds the tape a few seconds after recording of a scene has been completed. This allows the tape to attain a stable speed before the start of recording of the next scene, thus maintaining signal continuity during editing.

Bridging connection
A connection that allows a signal input to an input terminal to pass throuth the unit and exit from an output terminal for input to a third piece of equipment.

Capstan
A drive mechanism that moves the tape at a specified speed. Its rotation is normally synchronized with a reference sync signal.

Color frame
A color subcarrier phase having one cycle that consists of two frames (four fields) in the NTSC format and four frames (eight fields) in the PAL format.

Color frame locking
A procedure in which the time code frame value is set to an odd number for the first and second color fields, and to an even number for the third and fourth color fields.

Color framing
A method used by the VTR to maintain continuity of the color subcarrier phase between each two-frame cycle (NTSC) or four-frame cycle (PAL) to avoid picture fluctuation at edit points.

Component video signal
A video signal that consists of a luminance signal (Y) and two chrominance (color-difference) signals (R-Y, B-Y).

Composite video signal
A signal that consists of video (luminance and color sub carrier), sync (horizontal and vertical), and color burst signals.

Condensation
Moisture that collects on the head drum of the tape transport mechanism, causing damage to the tape and malfunction of the VTR.

CONFI (confidence) heads
Confidence heads are additional heads that play back signals currently being recorded. A VTR with the CONFI heads allows you to verify that the audio and video signals are being recorded correctly.

CTL
Abbreviation for control signal. A pulse signal that can be counted, to determine the number of frames, and therefore the tape's running time. Used mainly for adjusting the tracking position of video heads, and to achieve time code continuity during continuous recording. This signal is recorded on a longitudinal tape track.

Cue point
A point used to mark the beginning of a section of tape so that it can be located for later playback or editing.

Drop frame mode
In the NTSC system, the actual number of frames per second is approximately 29.97, while the time code value advances one second every 30 frames. In drop frame mode, the time code is advaced in such a way that this difference in the value between real time and the time codes is corrected. Specifically, two frames are skipped at the beginning of each minute, except for every tenth minute, so that the frame value for time codes matches that for real time.
See also Non-drop frame mode.

E-E mode
Abbreviation for Electric-to-Electric mode. Input signals are passed through the recorder's electronics and output through the output connectors. This mode is used for confirming input signals or adjusting the input level.

Emphasis
Emphasizing the high frequencies of a signal before processing (pre-emphasis) and de-emphasizing those high frequencies before output (de-emphasis). This reduces deterioration of the signal-to-noise ratio in the high frequency range.

Insert editing
An edit mode for inserting new scenes into the middle of previously recorded scenes. In this mode, only video and audio signals can be recorded separately. The VTR uses the prerecorded CTL signals on the tape to control tape travel. Therefore, before editing can be done in this mode, CTL signals must be recorded over the entire length of the tape.

Longitudinal time code
See LTC.

LTC
Abbreviation for Longitudinal Time Code. This is the time code recorded onto a longitudinal track of the tape. During the playback of still pictures, LTC cannnot be read since the tape is not moving. During slow playback, the LTC output is so small that it may not be read correctly, depending on the playback speed.
See also VITC.

Luminance signal
A signal that determines the brightness of the picture. Also called the Y signal.

Non-drop frame mode
A mode of advancing the time code in such a way that the difference in frame values between real time and the time code is neglected. Using this mode produces a difference of approximately 86 seconds per day between real time and the time code, which causes problems when editing programs in units of seconds using the number of frames as a refernce.
See also Drop frame mode.

Preroll
The rewinding of a video tape in the player or recorder VTR by a certain length before an edit point, allowing the tape to attain a stable speed at the edit point and synchronization with the other video tape during editing.

Reference video signal
A video signal containing a sync signal or sync and burst signal, used as a reference for synchronizing video equipment.

Servolocking
The locking of the phase and speed of a VTR's head drum rotation and tape transport to a reference signal during recording and playback.

Standby-off mode
A mode in which head drum rotation is stopped and tape tension is released, and thus the VTR is not ready for immediate recording and playback. This mode alleviates the tape and video heads from wear or damage.

Standby-on mode
A mode in which the head drum rotates with the tape wrapped around it, and thus the VTR is ready for immediate recording or playback. The VTR enters standby-off mode after remaining in standby-on mode for a specified length of time to prevent wear or damage to the tape and video heads.

Time code
A digital signal recorded on the video tape that supplies information such as hour, minute, second and frame number for each frame to facilitate the setting of edit points or searching for specific scenes on the tape. There are two types of time codes: SMPTE (for the NTSC color system) and EBU (for the PAL/SECAM color system); and two time code recording formats: longitudinal time code (LTC) and vertical time code (VITC).

Tracking
The synchronizing of the head drum rotation phase and tape transport phase during playback and recording. Tracking is adjusted to eliminate picture instability when playing back material recorded on another VTR.

Unloading
Also called "unthreading." A process by which the VTR winds the tape back into the cassette case and ejects the cassette from the slot. Normally, the VTR automatically unloads the cassette when you press the EJECT button.

User bits
A recordable 32-bit section in each time code on a video tape for recording such information as the recording year, month, and day, and the tape or program ID number.

Vertical interval time code
See VITC.

VITC
Abbreviation for Vertical Interval Time Code. This is a time code recorded on a video signal track during the vertical blanking interval. It can be read correctly even during slow or still picture playback. See also LTC.

Menu List

Items in the VTR SETUP menu are divided into categories according to type of setting they perform. Descriptions on each item are given below:

- Items related to the hours meter (Hs)
- Items related to VTR operations (000s)
- Items related to operation panels (100s)
- Items related to remote interface (200s)
- Items related to editing (300s)
- Items related to prerolling (400s)
- Items related to recording protection (500s)
- Items related to the time code generator (600s)
- Items related to the video control (700s)
- Items related to the audio control (800s)
- Items related to digital process (900s)
- Items set by switches on models DVW-A500, A500P, 500, 500P (Ks)

For details on the VTR SETUP menu, refer to "4-7-1 VTR SETUP Menu" on page 4-40.

Items Related to the Hours Meter (Hs)

Item number	Item	Function
H01	OPERATION HOURS	Displays the total number of hours that the VTR has been turned on and operated.
H02	DRUM RUNNING HOURS	Displays the total number of hours that the drum has rotated with tape threaded.
H03	TAPE RUNNING HOURS	Displays the total number of hours that the VTR has been in playback, fast-forwarding, rewinding, jog, shuttle, variable speed, and edit modes. (Does not include still mode.)
H04	THREADING COUNTER	Displays the total number of threadings and unthreadings.
H12	DRUM RUNNING HOURS (resettable)	Displays the total number of hours that the drum has run with tape threaded since last reset. Use this information as a guide for head-drum replacements. *For details, refer to the Maintenance Manual Part 1 (for use by qualified service personnel only).*
H13	TAPE RUNNING HOURS (resettable)	Displays the total number of hours that the VTR has been in playback, jog, shuttle and variable speed modes since last reset. (Does not include stop and still modes.) Use this information as a guide for replacing the fixed head and pinch rollers. *For details, refer to the Maintenance Manual Part 1 (for use by qualified service personnel only).*
H14	THREADING COUNTER (resettable)	Displays the total number of threadings and unthreadings since last reset. *For details, refer to the Maintenance Manual Part 1 (for use by qualified service personnel only).*

Items Related to VTR Operations (000s)

The values enclosed in a box are factory settings.

Item number	Item	Settable range		Function
001	PREROLL TIME	00 I [05] I 30	0 sec I [5 sec] I 30 sec	Selects the preroll time. A preroll time of 0 to 30 seconds can be selected. Though generally set to 3 seconds or longer, preroll time of 5 seconds or longer would be recommended for phase synchronization by an edit controller.
002 (DVW-A500/1 and 500/1)	CHARACTER H-POSITION	00 I [14] I 24	00 I [14] I 24	Sets the horizontal screen position of the superimposed characters output from the SERIAL V/A OUTPUT 4(SUPER) or COMPOSITE VIDEO OUTPUT 3(SUPER) connector. A hexadecimal value of 00 indicates the far left of the screen, and 24 (decimal 36) the far right. Increasing the value moves the starting position to the right.
002 (DVW-A500P/1 and 500P/1)	CHARACTER H-POSITION	00 I [12] I 22	00 I [12] I 22	Sets the horizontal screen position of the superimposed characters output from the SERIAL V/A OUTPUT 4(SUPER) or VIDEO OUTPUT COMPOSITE 3(SUPER) connector. A hexadecimal value of 00 indicates the far left of the screen, and 22 (decimal 34) the far right. Increasing the value moves the starting position to the right.
003 (DVW-A500/1 and 500/1)	CHARACTER V-POSITION	00 I [56] I 6A	00 I [56] I 6A	Sets the vertical screen position of the first line of superimposed characters output from the SERIAL V/A output 4(SUPER) or VIDEO OUTPUT COMPOSITE 3(SUPER) connector. A hexadecimal value of 00 indicates the top of the screen, and 6A (decimal 87) the bottom. Increasing the value lowers the position of the characters.
003 (DVW-A500P/1 and 500P/1)	CHARACTER V-POSITION	00 I [6A] I 81	00 I [6A] I 81	Sets the vertical screen position of the first line of superimposed characters output from the SERIAL V/A OUTPUT 4(SUPER) or VIDEO OUTPUT COMPOSITE 3(SUPER) connector. A hexadecimal value of 00 indicates the top of the screen, and 6F (decimal 111) the bottom. Increasing the value lowers the position of the characters.
004	SYNCHRONIZE	[0] 1	[on] off	Specifies phase synchronization of the two VTRs in phase synchronization, when the units are connected with a 9-pin remote cable with an editing system with this unit as the edit controller. 0: Operates in phase synchronization 1: Does not operate in phase synchronization
005	DISPLAY INFORMATION SELECT	[0] 1 2 3 4 5	[time data & status] time data & UB time data & CTL time data & time data time data only replay indicate	Determines the information to be displayed as superimposed characters output from the SERIAL V/A OUTPUT 4(SUPER) or VIDEO OUTPUT COMPOSITE 3(SUPER) connector. 0: Time counter display information and VTR status. 1: Time counter display information and user bits. 2: Time counter display information and CTL. 3: Time counter display information and time code (LTC or VITC). 4: Time code (LTC or VITC) only. 5: “R” (replay) is displayed during DT playback mode.

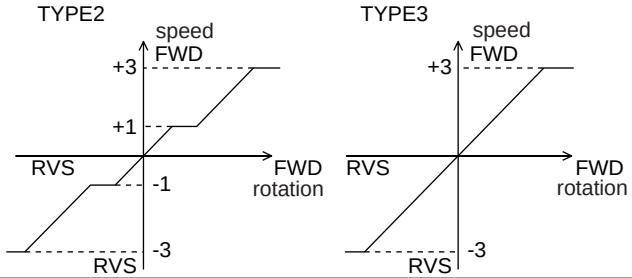
Item number	Item	Settable range		Function
006	LOCAL FUNCTION ENABLE	0 [1] 2	all disable [stop & eject] all enable	Selects which buttons on the control panel are enabled, when this unit is in the remote control mode. 0: All switches and buttons are disabled. 1: Only the STOP and EJECT buttons are enabled. 2: All switches and buttons except the RECORDER button and PLAYER button are enabled.
007	TAPE TIMER DISPLAY	[0] 1	[+/−12H] 24H	Determines whether the CTL counter displays a 12-hour or 24-hour clock. 0: 12-hour clock 1: 24-hour clock
008	MONITORING SELECTION FOR VTR-TO-VTR EDIT	[0] 1	[recorder only] auto switch	In two-VTR editing system when only one monitor is connected to the recorder, selects whether the recorder automatically changes to E-E mode and outputs the player's playback signal on the monitor whenever the recorder's PLAYER button is pressed. 0: The recorder does not change to E-E mode. 1: The recorder change to E-E mode to and outputs the playback signal of the player.
009	CHARACTER TYPE	[0] 1 2 3	[white] black W/out B/out	Determines the type of superimposed characters output from the SERIAL V/A OUTPUT 4(SUPER) or VIDEO OUTPUT COMPOSITE 3(SUPER) connector. 0: White letters on a black background 1: Black letters on a white background 2: White outline letters 3: Black outline letters
011	CHARACTER V-SIZE CONDITION	[01] 02 03 04	[×1] × 2 × 3 × 4	Determines the vertical size of superimposed characters output from the SERIAL V/A OUTPUT 4(SUPER) or VIDEO OUTPUT COMPOSITE 3(SUPER) connector. 01: Standard size 02: Two times standard size 03: Three times standard size 04: Four times standard size
012	CONDITION DISPLAY ON VIDEO MONITOR	[0] 1	[disable] enable	Determines whether or not to include the display of the channel condition with the superimposed characters. 0: Does not display the condition. 1: Displays the condition. How the channel condition display format: The condition is displayed below the timer or status line of the characters. (The entire area for displaying the condition is blank when an analog tape is inserted.) Example: V–––– A–––– The four characters following "V" indicate the condition of each video channel from Ach to Dch of the rotary head. The four characters following "A" indicate the condition of each audio channel from Ach to Dch of the rotary head. Character pattern (Space): The condition is not indicated on the front panel (STBY OFF, etc.). – : The condition is good (the green indicator lights up). * : The condition is less than good (the yellow indicator lights up). ■ : The condition is bad (the red indicator lights up).

Items Related to Operation Panels (100s)

The values enclosed in a box one factory settings.

Item number	Item	Settable range		Function
101	SELECTION FOR SEARCH DIAL ENABLE	[0] 1	[dial direct] via search key	Determines how the unit is set to search mode. 0: The unit enters search mode when you rotate the search dial in all modes except recording and edit modes. 1: The unit enters search mode when you press the SHUTTLE, JOG or VAR button.
102 (DVW-A500/1)	MAXIMUM TAPE SPEED	[0] 1 2	[×35] ×35 (shuttle ×24) ×24	Selects the maximum analog Betacam tape speed in search mode. **Note** The maximum digital Betacam tape speed in search mode is 50 times normal tape speed no matter what this setting is. 0: 35 times normal tape speed in shuttle mode using the search dial and during fast forward and rewind. 1: 35 times normal tape speed during fast forward and rewind. 24 times normal tape speed in shuttle mode using the search dial. 2: 24 times normal tape speed in shuttle mode using the search dial and during fast forward and rewind.
102 (DVW-A500P/1)	MAXIMUM TAPE SPEED	[0] 1 2	[×42] ×42 (shuttle ×24) ×24	Selects the maximum analog Betacam tape speed in search mode. **Note** The maximum digital Betacam tape speed in search mode is 50 times normal tape speed no matter what this setting is. 0: 42 times normal tape speed in shuttle mode using the search dial and during fast forward and rewind. 1: 42 times normal tape speed is the maximum tape speed during fast forward and rewind. 24 times normal tape speed in shuttle mode using the search dial. 2: 24 times normal tape speed in shuttle mode using the search dial and during fast forward and rewind.
103 (DVW-A500/1 and A500P/1)	AUDIO SELECTED LINE OUT	[0] 1 2	[manual] auto AFM/LNG select auto LNG select	Selects the audio signal output to the MONITOR OUTPUT connectors. 0: The audio signal selected by the AUDIO INPUT/ MONITOR SELECT buttons on the upper control panel or the [F9](MON-L SEL) or [F10](MON-R SEL) button in the PF2 menu factory setting) is output to the MONITOR OUTPUT connectors. 1: The AFM audio (CH-3 and CH-4) is selected during metal tape playback. The LNG audio (CH-1 and CH-2) is selected during oxide tape playback. Signal output is in stereo. 2: The audio signal selected by the AUDIO INPUT MONITOR SELECT buttons on the upper control panel or the [F9] (MON-L SEL) or [F10] (MON-R SEL) button in the PF2 menu (factory setting) is output to the MONITOR OUTPUT connectors. When the AFM audio is selected, the LNG audio is output to the MONITOR OUTPUT connector automatically when the variable speed playback mode is activated.

Item number	Item	Settable range		Function
104	AUDIO MUTING TIME	[00] 01 02 03 04 05 06 07 08 09 10	[off] 0.1 sec 0.2 sec 0.3 sec 0.4 sec 0.5 sec 0.6 sec 0.7 sec 0.8 sec 0.9 sec 1.0 sec	Selects the audio muting duration when the unit is changed to playback mode from still-picture mode while the VTR is in stop mode or search mode. The audio muting duration can be set in a range of 0 second (muting off) to 1.0 second, in 0.1 second steps.
105	REFERENCE SYSTEM ALARM	0 [1]	off [on]	Specifies whether or not to display a warning is output when the video/audio reference signal selected by the [F2] (OUT REF) button in the PF1 menu (factory setting) is not supplied or is out of phase with the input video signal. 0: No warning is displayed. 1: Warning is displayed by a flashing STOP button.
106 (DVW-A500/1 and 500/1)	CAPSTAN LOCK	[0] 1 2	[switch select] 2FLD 4FLD	Selects the capstan servo lock mode. 0: The capstan servo lock mode is determined by the ALT/[F5] (CAP LOCK) button menu on the lower control panel while in the HOME menu. 1: The capstan servo locks every 2FLD (two fields) regardless of the setting of the ALT/[F5] (CAP LOCK) button setting on the lower control panel while in the HOME menu. 2: The capstan servo locks every 4FLD (four fields) regardless of the ALT/[F5] (CAP LOCK) button setting on the lower control panel while in the HOME menu.
106 (DVW-A500P/1 and 500P/1)	CAPSTAN LOCK	[0] 1 2 3	[switch select] 2FLD 4FLD 8FLD	Selects the capstan servo lock mode. 0: The capstan servo lock mode is determined by the ALT/[F5] (CAP LOCK) button on the lower control panel while in the HOME menu. 1: The capstan servo locks every 2FLD (two fields) regardless of the ALT/[F5] (CAP LOCK) button setting on the lower control panel while in the HOME menu. 2: The capstan servo locks every 4FLD (four fields) regardless of the ALT/[F5] (CAP LOCK) button setting on the lower control panel while in the HOME menu. 3: The capstan servo locks every 8FLD (eight fields) regardless of the ALT/[F5] (CAP LOCK) button setting on the lower control panel while in the HOME menu.
107	REC INHIBIT LAMP FLASHING	[0] 1	[off] on	Specifies whether the REC INHIBIT indicator lights or flashes, when the ALT/[F1] (REC INH) button on the lower control panel is set to off while in the HOME menu and the REC inhibit plug on the back side of a cassette tape is pressed down. 0: The REC INHIBIT indicator lights up. 1: The REC INHIBIT indicator flashes.
108	AUTO EE SELECT	[0] 1	[stop/f.fwd/rew] stop	Selects the modes in which the unit automatically changes to E-E mode, for both audio and video signals, when a digital cassette tape is inserted and the ALT/[F2] (PB/EE) button in the HOME menu on the lower control panel is set to PB/EE. The unit changes to PB mode at all times when an analog Betacam cassette tape is inserted, no matter what this setting is. 0: Changes to E-E mode in stop/eject/fast forward/rewind modes. 1: Changes to E-E in stop/eject modes.

Item number	Item	Settable range		Function
109	FORCED EE WHEN TAPE UNTHREAD	[0] 1	[on] off	Specifies whether the unit automatically changes to PB/EE mode whenever PB/EE is selected with the ALT/[F2] (PB/EE) button on the lower control panel during tape threading and unthreading modes and when tape is not inserted. 0: The ALT/[F2] (PB/EE) button in the HOME menu does not control the PB/EE mode. (The E-E mode signal is output at all times.) 1: The ALT/[F2] (PB/EE) button in the HOME menu controls the PB/EE mode.
111	PROGRAM PLAY	[0] 1	[disable] enable	Specifies whether program play mode is enabled or not. 0: Program play mode is disabled. 1: Program play mode is enabled.
115 (DVW-A500/1 and A500P/1)	PHASE LOCK IN VARIABLE × 3	[0] 1	[off] on	Specifies whether the capstan phase servo is locked during the variable-speed mode of 3 times normal speed. 0: Capstan phase servo is not locked during the variable-speed mode of 3 times normal speed. 1: Capstan phase servo is locked during the variable-speed mode of 3 times normal speed.
116	JOG DIAL RESPONSE	[0] 1 2	[TYPE 1] TYPE 2 TYPE 3	Selects the tape speed (VTR command) characteristics for search dial rotation. 0: Tape speed changes linearly in a range of –1 to +1 times normal tape speed. 1: Tape speed changes in a range of –3 to +3 times normal tape speed as shown below in TYPE 2. (Tape speed does not change when the search dial is within a range of ±1 times normal tape speed.) 2: Tape speed changes linearly in a range of –3 to +3 times normal tape speed as shown below in TYPE 3. 
117	CONTROL PANEL SELECTION	[0] 1	[sw selection (EXT)] parallel control	Specifies which control panel is enabled when the CONTROL PANEL switch on the system setup panel is set to 'EXT'. 0: Only the control panel that is connected to the external control connector on the connector panel is enabled. 1: Both the control panel of this unit and the equipment connected to the external control connector on the connector panel are enabled.

Item number	Item		Settable range		Function
118	KEY INHIBIT SWITCH EFFECTIVE AREA				The enabling or disabling of switches and buttons can be independently specified through each of the following sub-items when the F1 (KEY INH) button on the lower control panel is set to “on” while in the PANEL SETUP menu.
	Sub Item				
	1	REMOTE SELECT	0 1	disable enable	Specifies whether the REMOTE1 (9P) and REMOTE2 (50P) button on the upper control panel are enabled or not. 0: REMOTE1/REMOTE2 buttons are disabled. 1: REMOTE1/REMOTE2 buttons are enabled.
	2	MON/INPUT SEL	0 1	disable enable	Specifies whether the INPUT/MONITOR SELECT buttons on the upper control panel are enabled or not. 0: INPUT/MONITOR SELECT buttons are disabled. 1: INPUT/MONITOR SELECT buttons are enabled.
	3	CONTROL PANEL	0 1 2	disable edit enable	Specifies which switches and buttons on the control panel of this unit and the external control panel connected to this unit are enabled. 0: All switches and buttons are disabled. 1: The switches and buttons related to editing function are disabled. 2: All switches and buttons are enabled.
119	VARIABLE SPEED LIMIT IN KEY PANEL CONTROL		0 1	off (–1 to +3) on (0 to +1)	Sets the the tape speed range during variable-speed (VAR) playback on the control panel of this unit. 0: The range of the tape speed is –1 to +3 times normal speed. 1: The range of the tape speed is 0 to +1 time normal speed.
120	CTL LOCK IN VAR/SHTL		0 1	off –1/–0.5/0.5/1.0/2.0	CTL locks the tape transport during variable-speed playback or shuttle playback. 0: CTL does not lock. 1: CTL locks the tape transport at speeds of –1, –0.5, 0.5, 1.0, and 2.0 times normal speed.
121	DT MODE		0 1	field frame (0 to +2)	Sets the DT operation mode. 0: Field playback (Field DT mode). 1: Enters the frame playback mode (frame DT mode) when the tape speed is 0 to +2 times normal speed.
122 (DVW-A500/1 and A500P/1)	AUTO EE WITH ANALOG TAPE (VIDEO ONLY)		0 1	disable enable	As in the case of digital tape insertion (Item 108), the VTR automatically changes to E-E mode from a VTR mode (F.FWD, REW, STOP, etc) when an analog tape is inserted. The change to E-E mode is only for video signals. MUTE mode for audio signals. 0: The unit stays in playback mode when an analog tape is inserted. 1: Item 108 is effective even when an analog tape is inserted. *For details on item 108, refer to page A-11.*

Items Related to Remote Interface (200s)

The values enclosed in a box are factory settings.

Item number	Item	Settable range		Function
201	PARA RUN	[0] 1	[disable] enable	Specifies whether two or more VTRs run in parallel as they are synchronized or not. 0: Two or more VTRs are not synchronized. 1: Two or more VTRs are synchronized. **Note** To synchronized two or more VTRs in parallel, set the item 201 in all VTRs to “1”.
202 (DVW-A500P/1 and 500P/1only)	CF FLAG REPLY	[0] 1	[8F] 4F or 8F	Selects the field when the color frame lock is set to “1” in the status data that is returned to the REMOTE1-IN (9P) connector on the connector panel. 0: Field 8 1: Field 4 or 8
208	PROTOCOL FOR REMOTE 1	[0] 1 2	[SONY 9 pin protocol] ESBUS AUTO selection	Selects the type of the communication protocol for the REMOTE1 (9P) connector on the connector panel. 0: SONY 9 pin protocol 1: EBU-SMPTE bus protocol 2: EBU-SMPTE bus and SONY 9 pin protocols are automatically selected.
209	ES BUS ADDRESS	[8280] I 82FE 8380 I 83FE 8480 I 84FE I I FF80 I FFFE	[8280] I 82FE 8380 I 83FE 8480 I 84FE I I FF80 I FFFE	Allocates the bus for the ES BUS protocol when it is used as the communication protocol for the REMOTE1 connector. (Only even data are shown.)

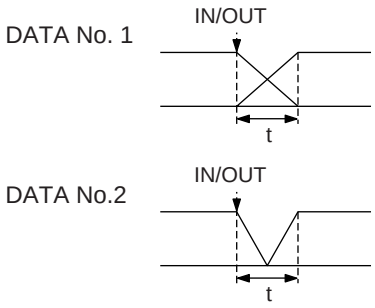
Items Related to Editing (300s)

The values enclosed in a box are factory settings.

Item number	Item	Settable range		Function
301	VAR SPEED RANGE FOR SYNCHRONIZATION	[0] 1	[–1 to +3] –1.15 to +3.45	Specifies the variable tape speed range when the variable speed playback is executed by a remote control unit connected to the REMOTE1 IN (9P) connector. 0 : –1 to +3 times normal tape speed 1 : –1.15 to +3.45 times normal tape speed **Note** When an editing control unit such as BVE-9000 is connected for DT editing, select “1”. When “1” is selected and the DT playback at a speed exceeding –1 to +3 times nomal tape speed is attempted during analog Betacam playback, the bottom of the picture may partially disappear. This is not a malfunction.
302	CAPSTAN RE-LOCKING DIRECTION	[0] 1 0 [1]	[deceleration] acceleration (DVW-A500/1 and 500/1) deceleration [acceleration] (DVW-A500P/1 and 500P/1)	Specifies whether capstan servo is re-locked in deceleration mode or acceleration mode when the ALT/[F5] (CAP LOCK) button in the HOME menu is set to 4FD (DVW-A500/1 and 500/1) or 4FD or 8FD (DVW-A500P/1 and 500P/1) . 0 : Capstan servo re-locks in deceleration mode. 1 : Capstan servo re-locks in acceleration mode.
304	EDIT FIELD SELECT	[0] 1 2	[1F] 2F 1F/2F	Specifies the timing for the start of editing in an edit mode. 0 : Tape editing starts from field 1 and ends at field 2. 1 : Tape editing starts from field 2 and ends at field 1. 2 : Tape editing is carried out according to the timing of commands.
305	SYNC GRADE	[0] 1	[accurate] rough	Specifies the editing accuracy when performing editing in phase-synchronized mode when the item 004 is set to “0”. 0 : Editing accuracy of ±0 frame 1 : Editing accuracy of ±1 frame *For details on item 004, refer to page A-8.*
306	DMC INITIAL SPEED	[00] 01 02 03 04 05 06 07 08 09 10 11 12 13	[manual] play still +0.03 +0.1 +0.2 +0.5 +1 +2 –0.03 –0.1 –0.2 –0.5 –1	Specifies the initial tape speed that is set automatically during DMC (Dynamic Motion Control) editing. 00 : The initial tape speed is determined by the rotation angle of the search dial. 01 : Normal playback speed 02 : Tape is stopped. 03 to 13 : The initial tape speed is the selected search speed.

Item number	Item	Settable range		Function
307	AUTO-DELETION FOR INCONSISTENT DATA	[0] 1 2	[manual] neg & excess neg	Specifies the action taken when an edit point is incorrectly set. 0 : a warning message is output on the display on the lower control panel. Delete manually the unnecessary edit points or correct the erroneous edit point manually. 1 : When an incorrect edit point is set, (i.e., an OUT point located before an IN point, or AUDIO OUT point before AUDIO IN point) the previously set edit point is deleted automatically. When excessive edit points are set, the previously set edit point is deleted automatically. 2 : When an incorrect edit point is set (i.e., an OUT point located before an IN point, or AUDIO OUT point located before AUDIO IN point) the previously set edit point is deleted automatically. When excessive edit points are set, a warning message appears in the display on the lower control panel. **Note** Editing is not performed on the VTR while a warning message aprears in the display.
308 (with optional BKDW-505 for DVW-500/1 series, and BKDW-506 for DVW-500P/1 series)	SELECTION OF STD/NON-STD FOR COMPOSITE VIDEO IN	[0] 1 2	[auto] forced STD forced non-STD	Select the STD or NON-STD signal mode according to the composite video input signal. 0 : Detect automatically whether the input luminance signal and chrominance signal are interleaved or not. If interleaved, the STD mode is selected. If not interleaved, the NON-STD mode is selected. 1 : The unit is in the STD mode at all times. 2 : The unit is in the NON-STD mode at all times. Use this mode when color framing of the video input signal is not stable.
309	SERVO/AV REFERENCE SEL	[0] 1 2	[auto 1] auto 2 external	The servo reference is selected by the following settings. 0: During recording, the analog component/composite or digital video input signal is selected as the servo reference signal. During playback, the signal selected by the [F2] (OUT REF) button in the PF1 menu (factory setting) on the lower control panel is selected as the servo reference signal. When the signal selected by the [F2] (OUT REF) button in the PF1 menu (factory setting) on the lower control panel is not connected, the internal reference signal is selected. 1: When the [F2] (OUT REF) button in the PF1 menu is set to “ref”, and the unit is in edit preset mode, the reference signal for video/audio signal processing is locked to the video input signal. 2: SYS1 ROM version 1.06 and higher The servo reference is forced into the EXT mode.

Item number	Item	Settable range		Function
310	REC INHIBIT	[0] 1 2 3	[all] crash video audio	Specifies the extent of the record inhibit function. 0 : Recording is disabled. 1 : Normal recording is disabled, but recording in assemble or insert edit mode is possible. 2 : Recording of video and CTL signal is disabled. 3 : Recording of audio and CTL signal is disabled **Note** The REC INHIBIT indicator on the lower control panel lights up when the setting is “1” or “2”, and flashes when an operation prohibited by the setting is attempted.
Items 311 through 315 describe the analog audio edit preset during editing mentioned on right.				The follwing items specifies the allocation of each channel for the analog audio preset of the editor or remote controller when the digital audio signals from the VTR is edited on an editor (BVE-600, etc.) or remote controller with digital audio edit preset control functions.
311	ANALOG AUDIO EDIT PRESET REPLACE FOR CH 1	0 [1] 2 3	no definition [analog ch 1] analog ch 2 analog ch 1 + ch 2	Sets the channel-1 edit preset of the VTR to ON or OFF according to the analog audio preset specified on an editor or remote controller. 0 : Not defined. 1 : As determined by analog channel 1 edit preset. 2 : As determined by analog channel 2 edit preset. 3 :As determined by analog channel 1 or analog channel 2 preset.
312	ANALOG AUDIO EDIT PRESET REPLACE FOR CH 2	0 1 [2] 3	no definition analog ch 1 [analog ch 2] analog ch 1 + ch 2	Sets the channel-2 edit preset of the VTR to ON or OFF according to the analog audio preset specified on an editor or remote controller. 0 : Not defined. 1 : As determined by analog channel 1 edit preset. 2 : As determined by analog channel 2 edit preset. 3 : As determined by analog channel 1 or analog channel 2 preset.
313	ANALOG AUDIO EDIT PRESET REPLACE FOR CH 3	[0] 1 2 3	[no definition] analog ch 1 analog ch 2 analog ch 1 + ch 2	Sets the channel-3 edit preset of the VTR to ON or OFF according to the analog audio preset specified on an editor or remote controller. 0 : Not defined. 1 : As determined by analog channel 1 edit preset. 2 : As determined by analog channel 2 edit preset. 3 : As determined by analog channel 1 or analog channel 2 preset.
314	ANALOG AUDIO EDIT PRESET REPLACE FOR CH 4	[0] 1 2 3	[no definition] analog ch 1 analog ch 2 analog ch 1 + ch 2	Sets the channel-4 edit preset of the VTR to ON or OFF according to the analog audio preset specified on an editor or remote controller. 0 : Not defined. 1 : As determined by analog channel 1 edit preset. 2 : As determined by analog channel 2 edit preset. 3 : As determined by analog channel 1 or analog channel 2 preset.
315	ANALOG AUDIO EDIT PRESET REPLACE FOR CUE	[0] 1 2 3	[no definition] analog ch 1 analog ch 2 analog ch 1 + ch 2	Sets the analog audio channel (longitudinal) edit preset of the VTR to ON or OFF according to the analog audio preset specified on an editor or remote controller. 0 : Not defined. 1 : As determined by analog channel 1 edit preset. 2 : As determined by analog channel 2 edit preset. 3 : As determined by analog channel 1 or analog ch 2 preset.

Item number	Item	Settable range		Function
316	CONFIDENCE PB MODE	SYS 1,SYS 2 ROM version 1.30 and higher		Specifies the confidence playback mode when the [F2] (CONFI) button in the HOME menu is set to ON. 0: VTR changes to CONFI playback mode during recording and editing mode. 1: Same as Mode 1, except VTR changes to the confidence playback mode also when EDIT preset is 'ON' during normal playback. 2: Confidence control is operative only in crash recording mode. **Note** When previewing during an automatic edit, the VTR changes to ADVANCE playback mode no matter what this item is set to.
		0	MODE 1 : Rec/Edit	
		[1]	[MODE 2 : Rec/Edit/ E.preset]	
		2	MODE 3 : Rec only	
317	AUDIO EDIT MODE	0	cut edit	Specifies the type of editing for digital audio signals. 0: Cut editing (discontinuity in audio signal may result at the join, causing noise.) 1: Cross-fade (see figure below.) 2: Fade-out and fade-in (see figure below.)  **Note** The "t" in the figures above is the time set by item 803.
		[1]	[cross fade]	
		2	fade in/out	
318	EDIT RETRY	0	off	Set this item when the VTR is used as a recorder during VTR-to-VTR editing. Specifies the action taken when the recorder fails to synchronize with the player VTR. 0: Editing is not executed and the VTR enters STOP mode. 1: The VTR automatically repeats the editing again (up to two times twice).
		[1]	[on]	
319	PREREAD SELECT	[0]	[audio/video]	Specifies PREREAD operations. 0: Prereads both audio and video signals. 1: Prereads audio signals only. 2: Prereads video signals only. Preread operations are specified and executed by the [F1] (PRE READ) button in the HOME menu or a 9-pin REMOTE1-IN connector command.
		1	audio only	
		2	video only	

Items Related to Prerolling (400s)

The values enclosed in a box are factory settings.

Item number	Item	Settable range		Function
401	FUNCTION MODE AFTER CUE-UP	[0]	[stop]	Selects the operation mode that the VTR changes to after completing a cue up operation. 0 : Enters stop mode. 1 : Enters still-picture mode (search mode). **Note** When setting the standard constant on the editor and control the unit, set to "0."
		1	still	
403	AUTOMATIC PREROLL REFERENCE ENTRY	[0]	[disable]	Specifies whether IN point is automatically set when the PREROLL button is pressed, in the case no IN point has been set at the start of a preroll operation. 0 : IN point is not set automatically. 1 : IN point is set automatically.
		1	enable	
404	CUEUP BY TC	0	capstan only	The setting of this item is valid only when the [F1] (TIMER SEL) button in the TC menu is set to TC or UBIT. 0 : The tape runs with the pinch ON during cue up. (The maximum tape speed is ten times normal tape speed.) 1 : The tape runs with the pinch OFF state during cue up. When the tape nears the cue up point and tape speed drops to slow, the pinch turns ON. Select "0" when the tape contains a discontinuity in its time code signal and the part that is prerolled contains the discontinuity. (Prerolling is performed by interpolating the time code preceding the discontinuity using the CTL signals.)
		[1]	[reel/capstan]	
405	CUEUP BY CTL	[0]	[capstan only]	The setting of this item is valid only when the [F1] (TIMER SEL) button in the TC menu is set to CTL. 0 : The tape runs with the pinch ON state during cue up. (The maximum tape speed is ten times normal tape speed.) 1 : The tape runs with the pinch OFF state during cue up. When the tape nears the cue up point and tape speed drops to slow, the pinch turns ON[a]. Select "0" when editing precision has priority.
		1	reel/capstan	

a) When this unit is controlled by an editor (BVE-2000/BVE-9100, etc), and the seting is "1", cue up operations are done at high speed.

Items Related to Recording Protection (500s)

The values enclosed in a box are factory settings.

Item number	Item	Settable range		Function
501	STILL TIMER	00 01 02 03 04 05 06 07 08 09 10 11 12 13 [14] 15	0.5 sec 5 sec 10 sec 20 sec 30 sec 40 sec 50 sec 1 min 2 min 3 min 4 min 5 min 6 min 7 min [8 min] 30 min	Select the amount of time elapse after which the VTR to automatically enters tape-protect mode, for the purpose of protecting the video head and tape. This is the time between stopping of the tape (stop mode or still-picture mode in search mode) and the change to tape protection mode. The selectable range of time is from 0.5 second to 30 minutes.
502	TAPE PROTECTION MODE FROM SEARCH	[0] 1 2	[step fwd] standby off tension release	Specifies the tape-protect mode the VTR changes to from still-picture mode while searching. The unit enters automatically the specified tape-protect mode after the time specified in item 501 has elapsed. 0 : A two-second step advance is repeated in forward direction at 1/30 times normal tape speed. 1 : The VTR enters standby off mode (standby is canceled). 2 : The VTR enters tension release mode (tape tension is released).
503	TAPE PROTECTION MODE FROM STOP	[0] 1	[standby off] tension release	Specifies the tape-protect mode the VTR changes to from the stop mode. The unit automatically enters the specified tape-protect mode from the stop mode after the elapse of time specified by the item 501. 0: The VTR enters standby off mode (standby is canceled). 1: The VTR enters tension release mode (tape tension is released).
504	DRUM ROTATION IN STANDBY OFF	[0] 1	[off] on	Sets the drum rotation to on or off during standby-off mode. 0: Drum rotation is stopped. 1: Drum rotation continues.
505	STILL TENSION	[0] 1	[normal] loose	Sets the tape tension control in still-picture mode. 0: Maintains the tape tension that ensures uneffected playback even in still-picture mode. (This is the normal setting for VTR operations.) 1: Sets the tape tension lower than that of the “0” setting after the VTR enters still-picture mode. In this case, picture playback is not ensured. (For long standbys (e.g., LMS) in still-picture mode, this setting is recommended.)

Items Related to the Time Code Generator (600s)

The values enclosed in a box are factory settings.

Item number	Item	Settable range		Function
601 (DVW-A500/1 and 500/1)	VITC POSITION SEL-1	12 I [16] I 20	12 line I [16 line] I 20 line	Specifies the line the VITC signal is inserted into. The VITC signal can be inserted in any line from line 12 through line 20. **Note** VITC can be inserted into two positions through item 601 and item 602.
601 (DVW-A500P/1 and 500P/1)	VITC POSITION SEL-1	9 I [19] I 22	9 line I [19 line] I 22 line	Specifies the line the VITC signal is inserted into. The VITC signal can be inserted in any line from line 9 through line 22. **Note** VITC can be inserted into two positions through the item 601 and item 602.
602 (DVW-A500/1 and 500/1)	VITC POSITION SEL-2	12 I [18] I 20	12 line I [18 line] I 20 line	Specifies the line the VITC signal is inserted into. The VITC signal can be inserted in any line from line 12 through line 20. **Note** The VITC can be inserted into two position through item 601 and item 602.
602 (for DVW-A500P/1 and 500P/1)	VITC POSITION SEL-2	9 I [21] 22	9.322 line I [21.334 line] 22.335 line	Specifies the line the VITC signal is inserted into. The VITC signal can be inserted in any line from line 9 through line 22. **Note** The VITC can be inserted into two position through item 601 and item 602.
603	ID CODE SET		00000000 I FFFFFFFF	Sets the ID code. **Note** To set the ID code Enter the ID code using the numeric buttons, then press the SET button.
605	TCG REGEN MODE	[0] 1 2	[TC&UB] TC UB	Specifies the type of signal to be regenerated when the time code generator is in the regeneration mode (i.e., when the [F7] (TCG MODE) button in the TC menu is set to regen or when the unit is in automatic edit mode). 0 : Both the time code and user bit signals are regenerated. 1 : Only the time code signal is regenerated. 2 : Only the user bit signal is regenerated.

Item number	Item	Settable range		Function
606	TC OUTPUT SIGNAL IN REGEN MODE	0 1	off tape regen	Specifies the signal output to the TIME CODE OUT connector when the internal time code generator is in a mode for regenerating the playback time code (i.e., when the F6 (TCG SOURCE) button in the TC menu is set to int and the F7 (TCG MODE) button is set to regen, or when the VTR is in the automatic edit mode). 0 : The playback time code signal is output to the TIME CODE OUT connector without regeneration. 1 : The playback time code signal is output to the TIME CODE OUT connector after regeneration only when the VTR is in playback mode.
607	U-BIT BINARY GROUP FLAG	0 1 2 3 4 5 6 7	000: not specified 001: iso character 010: unassigned-1 011: unassigned-2 100: unassigned-3 101: page/line 110: unassigned-4 111: unassigned-5	Specifies the user bit in the time code signal that is generated by the time code generator. 0: Character setting is not specified. 1: 8-bit character in compliance with ISO 646 and ISO 2022. 2: Unassigned 3: Unassigned 4: Unassigned 5: Page/line multiplexed system of SMPTE 262M 6: Unassigned 7: Unassigned
608	PHASE CORRECTION	0 1	off on	Specifies whether the phase correction control of the LTC signal generated by the time code generator is applied or not. 0: The phase correction control is not applied. 1: The phase correction control is applied.
609	TCG CF FLAG	0 1 2	off on auto	Specfies whether the color frame (CF) flag is set (ON) or not set (OFF) in the blank bit of the time code data. 0: Color frame flag is set OFF. 1: Color frame flag is set ON. 2: Color frame flag is set ON or OFF depending on the phase relationship of the color framing between the recorded video signal and the time code signal. **Note** When this item is set to “2”, the color frame flag is determined by the operating mode of the time code generator. • When INT PRESET mode (i.e., the EXT/INT switch is set to int, the REGEN/PRESET switch to prst, and the VTR is in a mode other than automatic edit mode), the time code signal is generated with color frame-locked to the video signal, and the color frame flag is ON. • When INT REGEN mode (i.e., when the EXT/INT switch is set to int, the REGEN/PRESET switch to regen, and the VTR is in automatic edit mode), or EXT mode (i.e., EXT/INT switch is in ext), color frame flag is OFF.

Item number	Item	Settable range		Function
610	REGEN CONTROL MODE	[0]	[auto (assem & insert) edit]	Specifies whether the time code signal is automatically regenerated or not, during editing using the control panel of the VTR. 0: When the VTR is used as a recorder for editing, the time code generator automatically regenerates the time code signal using the time code on the tape during assemble or insert edit no matter what the setting of the [F6] (TCG SOURCE) button in the TC menu is. 1: When the VTR is used as a recorder for ediing, the time code generator automatically regenerates the time code signal using time code of the time code generator on the tape during assemble edit only, no matter what the setting of the [F6] (TCG SOURCE) button in the TC menu is. 2: The time code generator operates in accordance with the setting of the [F6] (TCG SOURCE) button in the TC menu, regardless of the operating mode of the VTR. 3: The time code generator regenerates the time code signal in the off-tape LTC signal when edit preset is set to ON (assemble/insert), regardless of local or remote control.
		1	auto assemble edit	
		2	manual	
		3	assemble & insert	

Items Related to the Video Control (700s)

The values enclosed in a box are the factory settings.

Item number	Item		Settable range		Function
701	SELECTION OF VIDEO/SYNC DELAY		[0] 1	[sync delay] video delay	In E-E mode, the video output signal is delayed with respect to the input signal by a duration equal to the time required for video circuit processing (6H). This item specifies whether the sync signal is delayed by the same amount as the video output signal, or is output with the same timing as the input signal when outputting video signal with the sync signal. 0: Sync signal is delayed. 1: Sync signal is not delayed.
703 (DVW-A500/1 and 500/1)	BLANK LINE SELECT				Specifies whether blanking is on or off during the vertical blanking of the video signal. The lines that are blanked can be individually specified. The Y/C signal and ODD/EVEN field are blanked simultaneously.
	Sub item				
	0	All Line	[0] 1 2	[– – –] blank throu	0: Blanking is specified for each line. 1: All lines selectable by this menu item are blanked, no matter what the other sub item settings are. 2: All lines selectable by this menu item are not blanked, no matter what the other sub item settings are.
	12 I 19	Line 12 I Line 19	[0] 2	[blank] throu	0: Blanked 2: Not blanked
	20	Line 20	[0] 1 2	[blank] half throu	0: Blanked 1: Half-blanked 2: Not blanked **Note** For analog Betacam VTRs (i.e., Betacam SP): Blanking can be specified for lines 12 to 20. The chroma signal, however, is automatically blanked for lines 12 to 15 (even if blanking of the luminance signal is cancelled).
703 (DVW-A500P/1 and 500P/1)	BLANK LINE SELECT				Specifies whether blanking is on or off during the vertical blanking of the video signal. The lines that are blanked can be individually specified. The Y/C signal and ODD/EVEN field are blanked simultaneously.
	Sub item				
	0	All Line	[0] 1 2	[– – –] blank throu	0: Blanking is specified for each line. 1: All lines selectable by this menu item are blanked, no matter what the other sub item settings are. 2: All lines selectable by this menu item are not blanked, no matter what the other sub item settings are.
	9 I 22	Line 9 I Line 22	[0] 2	[blank] throu	0: Blanked 2: Not blanked
	23	Line 23	[1] 2	[half] throu	1: Half-blanked 2: Not blanked **Notes** • For digital Betacam VTRs: Blanking can be specified for lines 9 to 23. Line 23, however, is half-blanked. • For analog Betacam VTRs (i.e., Betacam SP): Blanking can be specified for lines 12 to 21. The chroma signal, however, is automatically blanked for lines 12 to 15 (even if blanking of the luminance signal is cancelled). Line 23 is half-blanked.

Item number	Item		Settable range		Function
704 (DVW-A500/1 and 500/1 with optional accessory BKDW-505)	DECODE Y/C SEP MODE				
	Sub item				
	12 I 20	Line 12 I Line 20	0 [1]	BPF [B&W]	Specifies the Y/C separation mode during vertical blanking. Can be specified independently for each line from line 12 to 20. Valid only when the BKDW-505 Analog Composite Decoder Board is installed. 0: Signals are processed as Y/C. 1: Signals are processed as luminance signals.
704 (DVW-A500P/1 and 500P/1 with optional accessory BKDW-506)	DECODE Y/C SEP MODE				
	Sub item				
	9 I 22	Line 9.332 I Line 22.335	0 [1]	BPF [B&W]	Specifies the Y/C separation mode during vertical blanking. Can be specified independently for each line from line 12 to 20. Valid only when the BKDW-506 Analog Composite Decoder Board is installed. 0: Signals are processed as Y/C. 1: Signals are processed as luminance signals.
705	EDGE SUBCARRIER REDUCER MODE		[0] 1	[auto] forced ESR on	During recording and playback of composite signals, the ESR (Edge Subcarrier Reducer) automatically goes on or off, depending on the VTR operation. Through this item, the ESR can also be set to stay on all the time when the color edge has more noise, as when recording a non-standard signal. 0: The ESR turns on and off automatically. 1: The ESR stays on all the time.
706	VERTICAL BLANKING V SHIFT		[0] 1	[on] off	During the Y-add operation mode, the playback signal is shifted by 1H to suppress vertical movement of the playback picture when the playback is an odd field and the reference signal an even field. This item is specified whether the 1H shift is applied or not during the V-blanking period. If it is, the video playback signal appears sporadically on line 21 during DT playback. 0: The shift is applied during V-blanking. 1: The shift is not applied during V-blanking. **Note** In a Y-add operation, vertical interpolation is conducted during DT playback in order to decrease vertical movement of the playback picture.
707	FORCED VERTICAL INTERPORATION OFF		[0] 1	[auto] forced YADD off	Specifies whether Y-add operation mode is automatically turned on during DT playback or not. 0: Y-add operation mode is automatically turned on. 1: Y-add operation mode is off all the time.

<table>
<tr><th>Item number</th><th>Item</th><th colspan="2">Settable range</th><th>Function</th></tr>
<tr><td>708</td><td>CHROMA PHASE ROTATION MODE</td><td>[0]
1</td><td>[U/V (composite) domain]
Pb/Pr (component) domain</td><td>Specifies the phase rotation domain of the chroma phase (hue) control.
The output level of SIF, component, and composite signals are simultaneously modified in accordance with the following modes:
0: When monitoring the composite output level of the VTR with a composite vector monitor (Sony Tektronix 1750 for DVW-A500/1 and 500/1, and 1751 for DVW-A500P/1 and 500P/1), rotating the CHROMA PHASE (hue) control changes only the chroma phase (hue), but not the chroma level.
1: When monitoring the component output level of the VTR with a component vector monitor (Sony Tektronix WFM300A), rotating the CHROMA PHASE (hue) control changes only the chroma phase (hue), but not the chroma level.</td></tr>
<tr><td rowspan="3">709
(DVW-A500/1 and 500/1 only)</td><td>DECODE Y/C SEP MODE</td><td colspan="2"></td><td>Specifies the D-1 or Betacam format as the input/output format for analog component signals.
<table><tr><th>Format</th><th>Color Bars</th><th>Y video</th><th>Y sync</th><th>R-Y/B-Y</th></tr><tr><td>D-1 CAV</td><td>with 100/0/ 100/0 color bars</td><td>700 mV</td><td>300 mV</td><td>700 mV</td></tr><tr><td>Betacam</td><td>with 100/ 7.5/77/7.5 color bars</td><td>714 mV</td><td>286 mV</td><td>700 mV</td></tr></table></td></tr>
<tr><td>Sub item</td><td colspan="2"></td><td></td></tr>
<tr><td>0 INPUT CAV LEVEL</td><td>[0]
1</td><td>[B-CAM]
D-1</td><td>Analog component input format
0: Betacam format
1: D-1 format</td></tr>
<tr><td>1 OUTPUT CAV LEVEL</td><td>[0]
1</td><td>[B-CAM]
D-1</td><td>Analog component output format
0: Betacam format
1: D-1 format</td></tr>
<tr><td>710</td><td>INTERNAL VIDEO SIGNAL GENERATOR</td><td>[0]
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17</td><td>[OFF]
100% Color Bars
75% Color Bars
75% Reverse Color Bars
Bowtie
Pulse & Bar
Multi Burst
H Sweep
5 step
Ramp
Shallow Ramp
Red
50% Flat
100% Flat
Black Burst
SDI Check Field
Line 330 (DVW-A500P/1 and 500P/1 only)
Test singal NTC7 (DVW-A500/1 and 500/1 only)</td><td>Specifies the type of test signal to be output from the VTR's internal test signal generator.
When OFF is selected, no test signal is output and the VTR operates normally.
For settings other than OFF, hold down the lit AUDIO INPUT/MONITOR SELECT button for 3 seconds or more. All the AUDIO INPUT/MONITOR SELECT buttons light and the internal test signal generator operates. The selected test signal (1 through 17) is output from the VTR. The output signal can also be recorded.</td></tr>
</table>

Item number	Item	Settable range		Function
712	VIDEO PROCESS ON CAP LOCK 2 FIELD	[0] 1	[off] on	When 2 FLD is selected by the ALT/[F5] (CAP LOCK) button in the HOME menu, or by the item 106 “CAPSTAN LOCK”, this item specifies whether the picture shift in 2-field mode playback applies or not. 0: Picture shift does not apply. 1: Picture shift applies. **Note** When recording composite signals, the composite input signal is first converted to a component digital signal by decoder (optional BKDW-505 for DVW-A500/1 and 500/1, or BKDW-506 for DVW-A500P/1 and 500P/1) before it is recorded. To eliminate the adverse effect of the residual chroma subcarrier component in the Y signal (the result of Y/C separation), 4-field color framing is normally conducted for playback (for NISC) or 8-field (for PAL). This VTR, however, is able to produce high picture quality through automatic shifting of the playback picture in the H direction even with 2-field (for NISC) or 2- or 4-field (for PAL) playback.
713 (DVW-A500/1 and 500/1 only)	VIDEO SETUP REFERENCE LEVEL **Sub item**			The sub items in this setting specify the amount to be subtracted from the setup level in the case of the recording signal and Betacam playback signal, or the amount to be added to the setup level in the case of a component output signal. The settings for the recording signal (i.e., input signal), Betacam playback signal, and composite output signal (i.e., output signal) are made separately. When the input signal, Betacam playback signal, and output signal have all been set to Master (i.e., they are displayed as MASTER), the level specified by the MASTER LEVEL sub item (0% to 10.0%) is subtracted from the setup level of the input and Betacam playback signals, and added to the setup level of the output signal. The subtraction of setup level for the input signal is only done for video input signals with a V/S ratio of 10:4, Betacam CAV input signals (set by menu), and D-2 format input signals (Option), and not for other signals. Subtraction of the setup level for input signals can be disabled by setting CNT of the V.REMOTE menu (displayed as REMOTE) to OFF.
	0 MASTER LEVEL	[1] | $_{11}$ | $_{15}$	[0.0%] 7.5% 10.0% (in 0.5% steps)	
	1 INPUT LEVEL	[0] 1 | $_{15}$	[MASTER] 0.0% 10.0% (in 0.5% steps)	
	2 INPUT VBLK CONT	[0] 1	[remove] throu	
	3 BATACAM PB LEVEL	[0] 1 | $_{15}$	[MASTER] 0.0% 10.0% (in 0.5% steps)	
	4 OUTPUT LEVEL	[0] 1 | $_{15}$	[MASTER] 0.0% 10.0% (in 0.5% steps)	
714	VIDEO ADJUST RANGE	[0] 1	[–3 to +3 dB] Wide	Specifies the variable range of the VIDEO and CHROMA level when K19 is set to LOCAL. 0: –3 to +3 dB 1: –∞ to +3 dB

Item number	Item	Settable range		Function
The video process control is described from the item 715 to 721.				The video processing is controlled according to the setting of the following menu items. To apply the settings of items 715 to 721, set K19 to “setup menu.”
715	VIDEO GAIN CONTROL preset: 800 H	0000 | [0800] | 0B50	0 (HEX) | [800(HEX)] | B50 (HEX)	Sets the video output level.
716	CHROMA GAIN CONTROL preset: 800 H	0000 | [0800] | 0B50	0 (HEX) | [800(HEX)] | B50 (HEX)	Sets the chroma output level.
717	CHROMA PHASE CONTROL preset: 80 H	0 | [80] | FF	0 (HEX) | [80(HEX)] | FF (HEX)	Sets the chroma phase (hue).
718 (DVW-A500/1 and 500/1)	SETUP LEVEL preset: 110 H	0000 | [0110] | 0220	0 (HEX) | [110(HEX)] | 220 (HEX)	Sets the setup level.
718 (DVW-A500P/1 and 500P/1)	BLACK LEVEL preset: 110 H	0000 | [0110] | 0220	0 (HEX) | [110(HEX)] | 220 (HEX)	Sets the black level.
719	SYSTEM PHASE SYNC preset: 80 H	0000 | [0080] | 00FF	0 (HEX) | [80(HEX)] | FF (HEX)	Sets the SYNC control.
720	SYSTEM PHASE SC preset: 0 H	[0000] | 03FF	[0(HEX)] | 3FF (HEX)	Sets the SC control.
721 (DVW-A500/1 and A500P/1)	Y/C DELAY preset: 800 H	0000 | [0800] | 0FFF	0 (HEX) | [800(HEX)] | FFF (HEX)	Sets the amount of Y/C delay amount during analog Betacam playback.

Item number	Item		Settable range		
722	REMOTE VIDEO CONTROL MODE		[0] composite 1 component (Y-R, B)		Specifies the type of video process control via the Sony 9-pin remote interface. 0: composite (Video, Chroma, Hue) 1: component (Y, P_B P_R) **Note** Hue cannot be controlled in component mode via 9-pin remote interface. Hue should be controlled by menu or by BVR-50.
723	INPUT VIDEO BLANK				Specifies whether the blanking is on or off during the vertical blanking of video input signal. The blanking line can be selected independently. Y/C and odd/even signals are blanked simultaneously. The input signals blanked by specification of these sub items are recorded on tape.
	Sub item				
	0	ALL LINE	[0] – – – 1 blank 2 throu		0: Blanking is specified for each line. 1: All lines selectable by this menu item are blanked, no matter what the other sub item settings are. 2: All lines selectable by this menu item are not blanked, no matter what the other sub item settings are.
	12 | 20	LINE 12 | LINE 20 (DVW-A500/1 and 500/1)	0 [2]	blank throu	0: Blanked 2: Not blanked
	9 | 22	LINE 9.32 | LINE 22.335 (DVW-A500P/1 and 500P/1)	0 [2]	blank throu	0: Blanked 2: Not blanked
724 (with optional BKDW-505 for DVW-A500/1 and 500/1, and BKDW-506 for DVW-A500P/1 and 500P/1)	VIDEO INPUT AGC/MANUAL		0 [1]	AGC manual	Sets the AGC to on or off (manual) for video input signal. 0: The AGC is on. 1: The AGC is off (manual).
725 (with optional BKDW-505 for DVW-A500/1 and 500/1, and BKDW-506 for DVW-A500P/1 and 500P/1)	VIDEO INPUT MANUAL LEVEL		0 | [80] | FF	0 (HEX) | 80 (HEX) | FF (HEX)	Set video input signal level when the item 724 is set to “1”.
726	H BLANKING WIDTH		[0] narrow 1 wide		Sets the horizontal blanking width of the video output signal. When analog blanking is selected, the horizontal blanking width conforms to the RS170A standard (for DVW-A500/1 and 500/1) or CCIR624-3 standard (DVW-A500P/1 and 500/1). Normally, a wide blanking width and a narrowed picture are used. During editing, “0” is recommended; in transmission, select “1” to output the signal in conformity with the respective standard. 0: Digital (narrow) blanking 1: Analog (wide) blanking

Item number	Item	Settable range		Function
727	VIDEO INPUT AGC/MANUAL	[0]	[internal]	Sets the output phase for the video playback signal in edit preset mode. 0: Video playback signal phase is identical to that in E-E mode. Choose this setting during single VTR editing or previewing the VTR output signal with the monitor function. 1: Video playback signal phase is identical to that of the video input signal or video signal from an external switcher. Choose this setting when previewing the video output signal of the VTR through an external switcher. This will prevent the shifting of picture at IN/OUT points. However, the editing results are normal no matter which setting is selected.
		1	external switcher	

Note

- When “external switcher” is selected:
  The operation on the VTR is treated as editing operation when the unit receives a CONFI ON control signal from the control panel or a remote controller.
  At this time, playback signal phase is identical to that of the video input or video signal from the external switcher.
  When CONFI play is disabled by setting of the item 316 (MODE 3: REC ONLY), the phase of the playback signal is identical to that of the output phase in E-E mode.
- When using an editor such as the BVE-800:
  Some editors such as the BVE-800 do not operate CONFI ON control (selecting a playback head) when editing.
  When using these units and this setting is “external switcher”, shifting of picture or muting/discontinuity in the audio may occur at the IN point/OUT point when editing.
  When this problem occurs, set this item to “internal”, or set the VTR to CONFI ON mode through the VTR control panel.
  However, the editing result is normal no matter what this setting is.

Items Related to the Audio Control (800s)

The values enclosed in a box are the factory settings.

Item number	Item	Settable range		Function
801	DIGITAL JOG SOUND	0 [1]	off [on]	Turns the digital jog sound on or off. 0: Digital jog sound is turned off. Audio signals of digital channels for which speed compensation has not been conducted are output even in still-picture mode. 1: Digital jog sound is turned on.
802	DIGITAL AUDIO MUTE IN SHUTTLE MODE	[0] 1 2	[off] cueup or preroll full	Sets the muting conditions for digital audio signals during shuttle playback. However, the digital audio signal is muted no matter what this setting is when the tape speed is 24 times normal speed or more. 0: Not muted. 1: Muted during cue-up or preroll operations. 2: Muted in shuttle mode.
803	DIGITAL AUDIO FADE TIME	0 [1] 2 3 4 5 6 7	5 ms [10 ms] 15 ms 20 ms 25 ms[a)] 50 ms[b)] 85 ms 115 ms[c)]	Specifies the fade processing time during cross-fading or fading-in/out of digital audio signals. **Note** Processing for cross fading, fading-in, and fading-out starts after an IN or OUT point. This item specifies rewriting during recording following the OUT point. Rewriting of one field occurs even when the minimum setting (5 ms) is selected. When CUT is selected in item 317 to prevent this from happening, a discontinuity in the audio signal occurs. There is, however, no effect on the recording of the video signal. a) The cross fade time is 24 ms. b) The actual fade time is 49 ms. c) The actual fade time is 114 ms.
804	AUDIO CH3/4 INPUT SOURCE ARRANGE	[0] 1 2 3	[CH3/CH4 : SW/SW] CH3/CH4 : CH1/SW CH3/CH4 : SW/CH2 CH3/CH4 : CH1/CH2	Select the input signal for digital audio channels 3 and 4. 0: The signal that is selected by the upper control panel is input to channels 3 and 4. 1: The signal to be recorded in channel 1 is recorded in channel 3. 2: The signal to be recorded in channel 2 is recorded in channel 4. 3: The signal to be recorded in channel 1 is recorded in channel 3 while the signal to be recorded in channel 2 is recorded in channel 4. **Note** The edit preset for channels 3 and 4 is completely independent. Even if this item is set to “1” and insert editing is performed with edit preset for channel 1 only, no signal is recorded in channel 3. The recording level is determined by the level control of the input channels used as the source when “1” through “3” are selected. There is no level control for channels 3 and 4. The level control for LINE OUT and MONITOR OUT is completely independent in E-E, CONFI and PB modes even when the setting is “1”, “2” or “3”.

Item number	Item	Settable range		Function
805	AUDIO MONITOR OUTPUT MIXING	0 [1] 2	add [rms] average	Specifies the type of audio mixing to be conducted on the digital audio signal or Betacam playback analog audio signal output to the MONITOR OUTPUT connector. 0: Simple addition 1: Multiplied average 2: Simple average **Note** When the CUE channel signal (a digital Betacam analog audio signal) is output to the monitor, signals are mixed by simple addition.
806	LEVEL METER SCALE	[0] 1	[peak 0 dB] reference 0 dB	Specifies the mode in which the digital audio level is displayed. 0: Displays minus audio levels with the maximum level set at 0 dB. 1: Displays plus and minus audio levels with the reference level set at 0 dB. **Note** The cue channel level is always displayed with the reference level set at 0 dB. In the Betacam playback mode, all channel levels are displayed with the reference level set at 0 dB no matter what this setting is.
807	AUDIO OUTPUT PHASE preset: 80H	0 I [80] I FF	0 (HEX) I [80 (HEX)] I FF (HEX)	Sets the output timing for the digital audio playback signal (SIF and AES/EBU only). The 80H setting specifies the reference position. A setting lower than 80H advances the output timing, and a setting higher than 80H delays the output timing. (80H = 128 samples, or approx. 2.7 ms, with 1 sample = approx. 20 µs)
808	INTERNAL AUDIO SIGNAL GENERATOR	[0] 1 2	[off] silence 1 kHz sine	Specifies the operation of the internal audio test signal generator. 0: The internal audio test signal generator does not oprate. 1: Silent signal 2: 1 kHz signal output (1 kHz –20 dB FS sine wave is supplied to all audio inputs.) In modes other than off: • Press the INPUT SELECT button on the upper control panel so that it lights up (the VTR enters AUDIO INPUT SELECT mode). • When one of the CH1 AUDIO INPUT SELECT buttons (SIF, AES/EBU L, ANALOG R) is held down for more than three seconds, the digital audio input signals of all channels are replaced by the internal audio signal.

Item number	Item	Settable range		Function
809	AUDIO LEVEL METER DIMMER CONTROL	[0] I 7	[0] I 7	Specifies the brightness of the audio level meter. 0 is the brightest level. 7 is the darkest level.
810	AUDIO EDIT PREVIEW SWITCHER	[0] 1	[internal] external switcher	Sets the output phase for the audio playback signal in edit preset mode. 0 : Audio playback signal phase is identical to that in E-E mode. Choose this setting during single VTR editing or previewing the VTR output signal with the monitor function. 1 : Audio playback signal phase is identical to that of the video input signal or video signal from an external switcher. Choose this setting when previewing the audio output signal of the VTR through an external switcher. This will prevent the muting/discontinuity in the audio at AUDIO IN/OUT points. However, the editing results are normal no matter which setting is selected.

Note

- When “external switcher” is selected:
  The operation on the VTR is treated as editing operation when the unit receives a CONFI ON control signal from the control panel or a remote controller.
  At this time, playback signal phase is identical to that of the video input or video signal from the external switcher.
  When CONFI play is disabled by setting of the item 316 (MODE 3: REC ONLY), the phase of the playback signal is identical to that of the output phase in E-E mode.
- When using an editor such as the BVE-800:
  Some editors such as the BVE-800 do not operate CONFI ON control (selecting a playback head) when editing.
  When using these units and this setting is “external switcher”, shifting of picture or muting/discontinuity in the audio may occur at the IN point/OUT point when editing.
  When this problem occurs, set this item to “internal”, or set the VTR to CONFI ON mode through the VTR control panel.
  However, the editing result is normal no matter what this setting is.

Items Related to Digital Processing (900s)

The values enclosed in a box are the factory settings.

Item number	Item	Settable range		Function
901	VIDEO OUTPUT DATA	0 [1]	8 bit [10 bit]	Specifies the bit length of the video output data from video processing (bit reduction processing). 0: When an 8-bit system is connected to the unit. 1: When an DVW-A500/1 series unit or a 10-bit system is connected to the unit. **Note** Select the same bit length as that of the equipment connected.
902	SYSTEM EE MODE	[0] 1 2 3	[off] DPR RF1 RF2	Selects bypass E-E mode for normal operations or system E-E mode for maintenance. There are three types of signal paths in system E-E mode. 0 : Bypass E-E mode for normal operations. 1 : System E-E mode that returns the video/audio signal within the DPR board after digital processing. 2 : System E-E mode that returns the video/audio signal through the input interface IC on the EQ board, and sent out to DPR. 3 : System E-E mode that returns the video/audio signal through all EQ board circuits except the head. In bypass E-E mode, the video/audio signal does not pass through all circuits. System E-E mode can be used for checking VTR functions at the time of installation. To activate system E-E mode, first select 1, 2, or 3, then press the CLR button and REC button simultaneously. System E-E mode is active only while you press these buttons. When you release these buttons, bypass E-E mode is automatically activated.
903	FREEZE MODE	[0] 1 2 3 4	[field] field 1 field 2 frame 1+2 frame 2+1	Specifies the freeze (still-picture) mode and freeze timing during manual freezing (by REMOTE1 (9P) or REMOTE2 (50P) connector on the control panel) or automatic freezing. 0: Freezes the odd or even field, depending on the timing in freeze mode. 1: Freezes the first (odd) field 2: Freezes the second (even) field 3: Freezes the first and the subsequent second field 4: Freezes the second field and the subsequent first field The first and second fields are determined using the reference video signal as a standard. In the case of freezing in playback modes other than normal playback, the picture is freezed in frame mode only when dynamic tracking is performing a frame operation. The picture is freezed in field mode when dynamic tracking is not operating. The freezed picture does not change even if you change this setting during freeze mode. The change to this setting becomes effective when the VTR outputs a still picture next time. When the stop freeze function is enabled, regardless of the setting of this item, the picture is freezed in frame mode only when dynamic tracking is performing a frame operation, or is freezed in field mode when dynamic tracking is performing a field operation or when it is not operating.

Item number	Item	Settable range		Function
904	FREEZE CONTROL FROM KEY PANEL	[0] 1	[momentary] latch	Determines the freeze operation control by button operations. 0: The picture is freezed only while the button is held down 1: The picture is freezed when the button is pressed, and remains freezed when the button is released. The freezed picture is cancelled when the button is pressed again. Button operations • Freezing in odd or even (first or second) field is specified by item 903. Distinction between the first or second field is, however, follows that the distinction in the reference signal.
905	AUTO FREEZE CONTROL	[0] 1 2	[disable] MODE1 = auto release MODE2 = release via stop	Specifies the operation performed (condition for cancelling still-picture mode) for the automatic freeze function. The automatic freeze function detects sudden deterioration (intrusion into unrecorded tape sections) of the channel condition in dynamic tracking playback modes (VAR, JOG, PLAY, SHTL), then freezes the picture. 0: The automatic freeze function is off 1: Freeze mode is automatically cancelled when the playback conditions return to normal 2: Freeze mode is automatically cancelled when playback is stopped. • The freeze mode (field/frame) during the automatic freeze function is set by item 903. • The freeze mode is immediately cancelled under the following conditions, no matter what the setting of this item is: When edit preset is on When the VTR is in CUE UP mode When the VTR is in REC mode
906	STOP FREEZE CONTROL • SYS1 and SYS2 ROM Version1.20 and higher	[0] 1	[disable] enable	Enable or disables the stop freeze function.

Stop freeze opration

MODE (After) / MODE (Before)	STOP	TENSION OFF	STDBY OFF
STILL (dynamic tracking on)	DT picture	DT picture	DT picture
CAPSTAN drive (includes shuttling up to ×10 normal tape speed)	DT picture	non-DT picture	non-DT picture
Reel drive (includes shuttling over ×10 normal tape speed)	non-DT picture	non-DT picture	non-DT picture

• A “DT picture” is a freezed picture in noiseless DT playback mode. The picture freezes in frame mode when the dynamic tracking is performing a frame operation. It freezes in field mode when dynamic tracking is not performing a frame operation.
• A “non-DT picture” is a freezed picture in shuttle mode. A block pattern may appear in a non-DT picture, depending on the circumstances.

Item number	Item	Settable range		Function
907[a)] (with optional BKDW-507)	PITCH CORRECTION IN P.PLAY	[0] 1	[on] off	Specifies whether the pitch correction is conducted in digital audio signal processing during playback in program play mode. 0 : Pitch correction is conducted. 1 : Pitch correction is not conducted. When the pitch correction is not conducted, an audio signal whose pitch changes according to the tape speed is output from SIF, AES/EBU, and ANALOG AUDIO OUTPUT connectors. However, the sampling rate for digital audio output (SIF and AES/EBU) signals are converted (rate-converted) to 48 kHz.
908[a)] (with optional BKDW-507)	PITCH DET FOR CH1/CH2 IN P.PLAY	0 1 [2]	ch1 ch2 [ch1+ch2]	Pitch information (musical interval) is necessary for carrying out pitch correction of digital audio signals in channels 1 and 2. This item specifies the channel from which this information is detected. Pitch correction is simultaneously executed in channels 1 and 2 according to the detected information. 0 : Detects the pitch information from the audio signal in channel 1. 1 : Detects the pitch information from the audio signal in channel 2. 2 : Detects the pitch information from the average of the audio signals in channels 1 and 2.
909[a)] (with optional BKDW-507)	PITCH DET FOR CH3/CH4 IN P.PLAY	0 1 [2]	ch3 ch4 [ch3+ch4]	Pitch information (musical interval) is necessary for carrying out pitch correction of digital audio signals in channels 3 and 4. This item specifies the channel from which this information is detected. Pitch correction is simultaneously executed in channels 3 and 4 according to the detected information. 0 : Detects the pitch information from the audio signal in channel 3. 1 : Detects the pitch information from the audio signal in channel 4. 2 : Detects the pitch information from the average of the audio signals in channels 3 and 4.
910[a)] (with optional BKDW-507)	PLAY MODE AFTER P.PLAY	[0] 1	[p.play 0 %] normal play	Specifies the operation of the VTR when it changes from program play mode to play mode. 0 : The speed deviation of 0% of program play mode is maintained for video and audio signals even when changing to play mode. 1 : When changing to play mode, the servo is re-locked to the reference signal. Some disturbance in the audio and video signals will occur at this time. To prevent picture disturbance when the VTR changes from program play mode to mode other than play mode, set items 905 and 906 to a setting other than “disable”.

a) This item is displayed when the BKDW-507 is installed.

Items Set by Switches on Models DVW-A500, A-500P, 500, and 500P (Ks)

The following items are set through switches and buttons on the control panel on models DVW-A500, A500P, 500, and 500P.
The values enclosed in a box are the factory settings.

Item number	Item	Settable range		Function
K01	PRE-READ	[0]	[off]	When on, prereading is performed during insert edit mode. Specify the preread operation with item 319.
		1	on	
K02	CONFIDENCE	[0]	[off]	When on, the video and audio signals being recorded can be monitored through simultaneous playback by the CONFI heads.
		1	on	
K03	REMOTE 9-PIN	[0]	[off]	When on, the VTR is remotely controlled by a device connected to the REMOTE1-IN(9P)/OUT(9P) connectors. **Note** When operating the VTR through an external device connected to the REMOTE1-IN (9P) or REMOTE PARALLEL I/O (50P) connector, all of the tape operation and editing buttons are disabled, with the exception of the STOP and EJECT buttons. You can also set the VTR so that all buttons are enabled or disabled. *For details, refer to the item 006.*
		1	on	
K04	REMOTE 50-PIN	[0]	[off]	When on, the VTR is remotely controlled by the device (optional BKDW-509) connected to the REMOTE PARALLEL I/O(50P) connector.
		1	on	
K05	REC INHIBIT	[0]	[off]	Selects record inhibit mode. 0: Recording is enabled (the REC INHIBIT indicator does not light up). 1: Recording is disabled (the REC INHIBIT indicator lights up). Set the record-inhibit range with item 310. If you attempt to an operation that is prohibited by the record inhibit mode, the REC INHIBIT indicator flashes as a warning. *For details, refer to the item 107.*
		1	on	
K06	MONITOR MODE SELECT (PB/EE)	0	PB	Selects the video/audio signals to be output in fast-forward, rewind, stop, or standby mode. 0: Playback signals 1: Input signals Either setting can be specified during analog Betacam playback on the DVW-A500/1 series; in actual operation, however, only playback signals are output.
		[1]	[PB/EE]	

Item number	Item	Settable range		Function
K07 (DVW-A500/1 and 500/1)	CAPSTAN LOCK	[0] 1	[2F] 4F	Switches the capstan servo lock mode for editing or playing a tape with decoded component signals (i.e., a tape with composite input data recorded on a Digital Betacam VTR or Betacam/Betacam SP VTR). 0: The capstan servo is locked every 2 fields. Since color framing is disabled, phase shifting (H-shifting) of output video signals does not occur during playback. This is the normal setting for editing or playback of component signals. To enhance the frequency characteristics, H-shifting of the video output on the basis of the decoding information on the tape may also be performed by setting the item 712. 1: The capstan servo is locked to the color frame every 4 fields. The VTR maintains the phase of the video output signals even after repeated stopping and restarting of playback. Use this setting if you require continuity in video phase at edit points during editing or playback of composite signals, or when you perform AB rolling.
K07 (DVW-A500P/1 and 500P/1)	CAPSTAN LOCK	[0] 1 2	[2F] 4F 8F	Switches the capstan servo lock mode for editing or playing a tape with decoded component signals (i.e., a tape with composite input data recorded on a Digital Betacam VTR or Betacam/Betacam SP VTR). 0: The capstan servo is locked every 2 fields. Since color framing is disabled, phase shifting (picture shifting) of output video signals does not occur during playback. This is the normal setting for editing or playback of component signals. To enhance the frequency characteristics, H-shifting of the video output on the basis of the decoding information on the tape may also be performed by setting the item 712. 1: The capstan servo is locked every 4 fields. This is the normal setting for editing of component signals with quick servo lock. To enhance the frequency characteristics, H-shifting of the video output on the basis of the decoding information on the tape may also be performed by setting the item 712. 2: The capstan servo is locked to the color frame every 8 fields. The VTR maintains the phase of the video output signals even after repeated stopping and restarting of playback. Use this setting if you require continuity in video phase at edit points during editing or playback of composite signals, or when you perform AB rolling.
K08	TIMER SELECT	[0] 1 2	[CTL] TC UBIT	Selects the time data display. 0: Displays the value read by the time code reader or the value generated by the time code generator. To switch between VITC and LTC, press the [F5] (TC SEL) button. 1: Counts the CTL signals on the playback tape or the CTL signals being recorded on the tape, and displays the tape running time in hours, minutes, seconds, and frames. 2: Displays user bits data inserted in time code being played back, or the user bits data inserted in time code being recording. To switch between VITC and LTC, press the [F5] (TC SEL) button.
K09	TC SELECT	[0] 1 2	[ltc] vitc auto	Selects the time code to be read by the time code reader during playback. 0: Reads LTC. 1: Reads VITC. 2: Reads VITC when the playback speed is ±1/2 times normal speed or less, and LTC when it is greater than ±1/2 times normal speed.

Item number	Item	Settable range		Function
K10	TC GENERATOR EXT/INT	[0] 1	[internal] external	Selects the time code generated by the internal or external time cord generator. 0: Selects the time code generated by the internal time code generator. 1: Selects an external time code input to the TIME CODE IN connector.
K11	TC GENERATOR REGEN/PRESET	[0] 1	[preset] regenerate	Selects the time code with which the internal time code generator synchronizes. 0: Presets the initial settings of the time code generated by the internal time code generator with operation through the front panel or remote control from the device connected to the REMOTE1-IN (9P) connector. 1: The internal time code reader synchronizes with the time code read by the internal time code reader (regenerates the time code).
K12	REC RUN/FREE RUN	[0] 1	[free run] rec run	Selects the time code running mode. 0: The time code advances when the power is on regardless of the VTR's operation mode. 1: The time code advances only during recording. When selecting this setting, set the [F6] (TCG SOURCE) button to int, the [F7] (TCG MODE) button to prst.
K13 (DVW-A500/1 and 500/1 only)	DF/NDF	[0] 1	[drop frame] non-drop frame	Selects the running mode for the CTL counter and the time code generator. 0: Drop frame mode (DF is displayed.) 1: Non-drop frame mode (NDF is displayed.)
K14	VITC	[0] 1	[on] off	Specifies the recording of VITC. 0: Records VITC generated by the internal time code generator. 1: Does not record VITC. However, records VITC inserted in the video input signal. *For details on the VITC insertion line, refer to "4-3-10 Setting the VITC Insertion Line (VITC POS-1/POS-2)" on page 4-26.*
K15	ID PRESET	[0] 1	[off] on	The presetting of the ID code in non-volatile memory as user bits data enables recalling and record it during later recording sessions. 0: Records the user bits set through the control panel. 1: Records the preset ID code as user bits data. *For details on presetting ID code, refer to the item 603.*
K16	SUPERIMPOSED CHARACTER	0 [1]	off [on]	Set to on to superimpose time data and operation mode indicated as character data onto the signals output from the SERIAL V/A OUTPUT 4(SUPER) and VIDEO OUTPUT COMPOSITE 3(SUPER) connectors. 0: Does not superimpose time data and operation mode. 1: Superimposes time data and operation mode.
K17	VIDEO INPUT SELECT	[0] 1 2	[sif] composite component(y-t/b)	Selects the video input signal. 0: The serial digital video signal input to the SERIAL V/A INPUT connector. 1: The analog composite video signal input to the COMPOSITE VIDEO INPUT connector. 2: The analog component video signal input to the COMPONENT VIDEO INPUT connectors.
K18	OUTPUT REFERENCE SELECT	[0] 1	[ref.video] input video	Selects the signal to be used as the reference signal for VTR operations. 0: The signal input to the REF.VIDEO connector is used as the reference signal for playback and audio recording. Digital audio and video input signals must synchronize with this reference signal during recording. 1: The video input signal is used as the reference signal for VTR operations. The [F1] (VIDEO IN) button in the PF1 menu (factory setting)switches the video input signal.

Item number	Item	Settable range		Function
K19	PROCESS CONTROL	0 [1] 2	remote [setup menu] local	Selects the method for operating the internal digital video processor. 0: Select this setting when using the optional BVR-50 Remote controller to remotely control the internal digital video processor. 1: Select this setting when adjusting the settings of the internal digital video processor through items 715 to 721. 2: Select this setting when controlling the internal digital processor from the control panel of the VTR. **Note** Changing the PROCESS CONTROL setting during playback may cause a momentary interruption in the sound output.
K21	AUDIO INPUT SEL CH-1	0 [1] 2	analog [sif] AES/EBU	Selects the audio input signal for the various channels. 0: Audio signal input to the ANALOG AUDIO INPUT connectors. 1: Audio signal input to the SERIAL V/A INPUT connector. 2: Audio signal input to the AUDIO INPUT (AES/EBU) connectors.
K22	AUDIO INPUT SEL CH-2	0 [1] 2	analog [sif] AES/EBU	
K23	AUDIO INPUT SEL CH-3	0 [1] 2	analog [sif] AES/EBU	
K24	AUDIO INPUT SEL CH-4	0 [1] 2	analog [sif] AES/EBU	
K25	DOLBY NR (DVW-A500/1 and A500P/1)	0 [1]	off [on]	Turns on and off the Dolby NR (noise reduction) C system which is used for cue audio tracks only when using an oxide tape. The system automatically turns on when using a metal tape. 0: Plays back an analog Betacam oxide tape without the Dolby NR system. 1: Plays back an analog Betacam oxide tape with the Dolby NR system.
K26	AUDIO EMPHASIS	[0] 1	[off] on	Set to emphasize to a digital audio signal that has been converted from an analog audio input signal. This setting also allows you to emphasize while digitizing a playback audio signal from a conventional Betacam cassette.

Item number	Item	Settable range		Function
K27	AUDIO MONITOR-L SELECT	[1]	[ch1 – – – –]	Selects the audio signal to be output at the MONITOR OUTPUT L/R connector(s). If you specify more than one channel to the same MONITOR OUTPUT connector, a mixed audio signal is output from that connector.
K28	AUDIO MONITOR-R SELECT	2	– ch2 – – –	
		3	ch1 ch2 – – –	
		4	– – ch3 – –	
		5	ch1 – ch3 – –	
		6	– ch2 ch3 – –	
		7	ch1 ch2 ch3 – –	
		8	– – – ch4 –	
		9	ch1 – – ch4 –	
		10	– ch2 – ch4 –	
		11	ch1 ch2 – ch4 –	
		12	– – ch3 ch4 –	
		13	ch1 – ch3 ch4 –	
		14	– ch2 ch3 ch4 –	
		15	ch1 ch2 ch3 ch4 –	
		16	– – – – cue	
		17	ch1 – – – cue	
		18	– ch2 – – cue	
		19	ch1 ch2 – – cue	
		20	– – ch3 – cue	
		21	ch1 – ch3 – cue	
		22	– ch2 ch3 – cue	
		23	ch1 ch2 ch3 – cue	
		24	– – – ch4 cue	
		25	ch1 – – ch4 cue	
		26	– ch2 – ch4 cue	
		27	ch1 ch2 – ch4 cue	
		28	– – ch3 ch4 cue	
		29	ch1 – ch3 ch4 cue	
		30	– ch2 ch3 ch4 cue	
		31	ch1 ch2 ch3 ch4 cue	
K29	KEY INHIBIT	[0]	[off]	When set to on, the KEY INHIBIT indicator on the upper control panel lights up and all or some of the REMOTE, AUDIO INPUT/MONITOR SELECT and editing buttons on the lower control panel are disabled. *For details on specifying the switches and buttons to be disabed, refer to the item 118.*
		1	on	
K41	KEY BEEP	0	high	Sets the keyboard sound volume.
		1	low	
		[2]	[off]	
K42	ALARM BEEP	[0]	[high]	Sets the alarm volume.
		1	low	
		2	off	
K43	SCREEN SAVER	0	3 min	Sets the elapsed time after which the screen-saver is activated.
		1	10 min	
		2	60 min	
		[3]	[off]	

Item number	Item	Settable range		Function
K44	CUE MENU DEFAULT MODE SEL	0 1	page mode extend mode	Selects the default mode to be activated when you activate the CUE menu. 0: PAGE mode 1: EXTEND mode
K45	CUE MENU PRE-ROLL OFFSET	0 1 I 30	0 sec 1 sec I 30 sec	Specifies the preroll time to a cue point. You can set a preroll time of 0 to 30 seconds in 1-second units.
K46	POWER-ON MENU SELECT	0 1 2 3 4	HOME menu TC menu CUE menu PF1 menu PF2 menu	Selects the menu to be activated automatically when you turn on the power.

Item assignable to PF1 and PF2 menus are items 001 to 910, K1 to K46 which are included in the VTR SETUP menu, and K61 to K76 described below. They all appear in the PF ASSIGN menu.

Item K61 to K76 does not appear in the VTR SETUP menu, and the settings of these items return to their factory settings when you turn the power off.

Item number	Item	Function
K61	ASSEMBLE	Selects assemble editing.
K62	INS TC	Selects the insert channel(s) for insert editing.
K63	INS VIDEO	
K64	INS A-CH1	
K65	INS A-CH2	
K66	INS A-CH3	
K67	INS A-CH4	
K68	INS A-CH CUE	
K69	FREEZE	A still-picture is output when you press the function button which this item is registered.
K70	DMC	Register this item to a function button in the PF1/2 menu and press the button to record, automatically play and automatically edit a signal played back at speed between –1 to +3 times normal playing speed.
K71	P-PLAY	
K73	LAST EDIT	
K74	TIMER RESET	Resets the internal time code generator. CTL: The time data display becomes 00H00M00S00F and all edit points are erased. TC or UBIT: The time data display becomes 00H00M00S00F (TC) or 00 00 00 00 (UBIT). Edit points are not affected.
K75	TIMER SET	Register this item to a function button in the PF1/2 menu and press the button to set the desired time code or user bits.
K76	TIMER HOLD	Register this item to a function button in the PF1/2 menu and press the button to stop advancing the time data.

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Function Button List (Factory Settings)

Items and settings in parentheses are for PAL.

Menu	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	ALT F1	ALT F2	ALT F3	ALT F4	ALT F5	ALT F6	ALT F7	ALT F8	ALT F9	ALT F10
HOME	PRE READ	CONFI	ASSEM-BLE	INS TC	INS VIDEO	INS A-CH1	INS A-CH2	INS A-CH3	INS A-CH4	INS CUE	REC INH	PB/EE	FREEZE		CAP LOCK	P-ROLL TIME	DMC	P-PLAY		LAST EDIT
	off [video, audio, a/v]	on off	on off	on off	on off	on off	on off	on off	on off	on off	off [all, crash, video, audio]	PB/EE PB	on off		2FD 4FD (8FD)	0 to 30 s				
TC	TIMER SEL	TIMER RESET	TIMER SET	TIMER HOLD	TC SEL	TCG SOURCE	TCG MODE	RUN MODE	DF/NDF	VITC	TAPE TIMER	ID PRESET				CHARA SUPER	CHARA H-POS	CHARA V-POS	VITC POS-1	VITC POS-2
	CTL TC UBIT			on off	VITC AUTO LTC	int ext	regen prst	free rec	DF NDF	on off	+ – 12H 24H	on off				on off	0 to 24 (0 to 22)	0 to 6A (0 to 81)	12 to 20 (9 to 22)	12 to 20 (9 to 22)
CUE	PREV PAGE	NEXT PAGE			CUE P-ROLL			PAGE SET	CUENUM SET									PAGE MODE	EXTEND MODE	
					0 to 30 s															
PF1 (Factory setting)	VIDEO IN	OUT REF	PROC CONTRL	VIDEO GAIN	CHROMA GAIN	SETUP LEVEL (BLACK LEVEL)	Y/C DELAY	CHROMA PHASE	SYSTEM SYNC	SYSTEM SC										
	sif cmpst y-r/b	ref input	menu local rmt	prst xxH	prst xxH	prst xxH	prst xxH	prst xxH	prst xxH	prst xxH										
PF2 (Factory setting)	A-IN CH1	A-IN CH2	A-IN CH3	A-IN CH4		DOLBY NR	EMPHA-SIS		MON-L SEL	MON-R SEL										
	sif AES/EBU analg	sif AES/EBU analg	sif AES/EBU analg	sif AES/EBU analg		on off	off on		1,2,3,4,5	1,2,3,4,5										
SET UP	VTR BANK	MEMORY CARD		PF1&2 ASSIGN	PANEL SETUP	VTR SETUP		REMOTE 9-PIN	REMOTE 50-PIN										AUDIO SG	VIDEO SG
	▽	▽		▽	▽	▽		on off	on off										on off	on off
VTR BANK						EDIT TITLE		DIREC-TION	COPY	EXIT										
								>> <<												
MEMORY CARD	FORMAT CARD		SHOW SETUP	SHOW CUESET		EDIT TITLE	SELECT ALL	DIREC-TION	COPY	EXIT										
								>> <<												
PF1&2 ASSIGN	PF1	ALT +PF1	PF2	ALT +PF2		SET BLANK	PASTE		CANCEL	SAVE/ EXIT										
PANEL SETUP	KEYINH					KEY BEEP	ALARM BEEP	SCREEN SAVER		EXIT										
	on off					high low off	high low off	3min 10min 60min off												
VTR SETUP	PREV CATEG	NEXT CATEG		MULTI LOOP			CHANGE DATA			SAVE/ EXIT										
				off cb100 etc.																

▽ indicates the existence of other menu levels.

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